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Carnegie Endowment for International Peace

Review of Economics and History

PRELIMINARY ECONOMIC STUDIES OF THE WAR

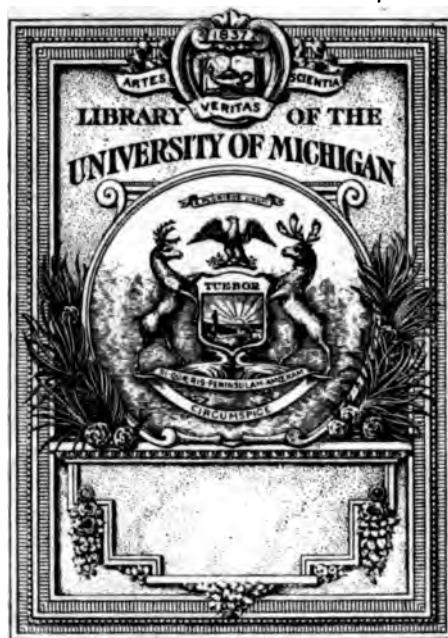
ECONOMIC EFFECTS OF THE WAR

1919

WOMEN AND CHILDREN

1919

GREAT BRITAIN



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Carnegie Endowment for International Peace

DIVISION OF ECONOMICS AND HISTORY

JOHN BATES CLARK, DIRECTOR

PRELIMINARY ECONOMIC STUDIES OF THE WAR

EDITED BY

DAVID KINLEY

Professor of Political Economy, University of Illinois
Member of Committee of Research of the Endowment

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ECONOMIC EFFECTS OF THE WAR UPON WOMEN AND CHILDREN IN GREAT BRITAIN

BY

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ASSISTED BY

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INTRODUCTORY NOTE BY THE DIRECTOR

The Division of Economics and History of the Carnegie Endowment for International Peace is organized to "promote a thorough and scientific investigation of the causes and results of war." In accordance with this purpose a conference of eminent statesmen, publicists, and economists was held in Berne, Switzerland, in August, 1911, at which a plan of investigation was formed and an extensive list of topics was prepared. An elaborate series of investigations was undertaken, and, if the war had not intervened, the resulting reports might have been expected, before the present date, in printed form.

Of works so undertaken some aim to reveal direct and indirect consequences of warfare, and thus to furnish a basis for a judgment as to the reasonableness of the resort to it. If the evils are in reality larger and the benefits smaller than in the common view they appear to be, such studies should furnish convincing evidence of this fact and afford a basis for an enlightened policy whenever there is danger of international conflicts.

Studies of the causes of warfare reveal, in particular, those economic influences which in time of peace bring about clashing interests and mutual suspicion and hostility. They show what policies, as adopted by different nations, reduce the conflicts of interest, inure to the common benefit, and afford a basis for international confidence and good will. They tend, further, to reveal the natural economic influences which of themselves bring about more and more harmonious relations and tend to substitute general benefits for the mutual injuries that follow unintelligent self-seeking. Economic internationalism needs to be fortified by the mutual trust that just dealing creates; but just conduct itself may be favored by economic conditions. These, in turn, may be created partly by a natural evolution and partly

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by the conscious action of governments; and both evolution and public action are among the important subjects of investigation.

An appeal to reason is in order when excited feelings render armed conflicts imminent; but it is quite as surely called for when no excitement exists and when it may be foreseen and prevented from developing by sound national policies. To furnish a scientific basis for reasonable international policies is the purpose of some of the studies already in progress and of more that will hereafter be undertaken. A brief outline of the work done prior to the war has interrupted work, but rather more than a half of the studies that were in progress when it began; but it has itself furnished topics of immediate and transcendent importance. The costs, direct and indirect, of the conflict, the commercial policies induced by it and, especially, the direct control, which because of existing governments are now exercising in many spheres of economic activity where formerly competition and individual freedom held sway, are phenomena that call before almost all others, for scientific study. It is expected that most of the interrupted work will ultimately be resumed and that, in the interim before this occurs, studies of even greater importance will be undertaken and will be pushed rapidly toward completion.

The publications of the Division of Economics and History are under the direction of a Committee of Research, the membership of which includes statesmen, publicists, and economists who participated in the Conference at Bern in 1911, and two who have since been added. The list of members at present is as follows: *Hans Boenigk*, member of the Institute of Eugène Böfeli, Professor of Public and International Law in the University of Geneva; *Emile Durkheim*, member of the Institut Lujas Brentano, Professor of Economics in the University of Munich; Member of the Royal Bavarian Academy of Sciences; *Charles Gide*, Professor of Comparative Social Economics in the University of Paris; and *Edmund Boettcher*, member of the Institute of Eugène Böfeli, and others whose names are given below. Membership ceased April 6, 1917, by reason of the declaration of a state of war between the United States and the Imperial German Government.

(Ho Ben Greven, Professor of Political Economy and Statistics in the University of Leiden; died October 20, 1916);
 Francis W. Hirst, London; died April 10, 1917;
 David Kinley, Professor of Political Economy in the University of Illinois, died January 10, 1917; and
 Henri La Fontaine, Senator of Belgium, all to give to good.
 His Excellency Luigi Luzzatti, Professor of Constitutional Law in the University of Rome; Secretary of the Treasury, 1891-93; Prime Minister of Italy, 1908-11; died April 26, 1917;
 Gotaro Ogawa, Professor of Finance at the University of Kioto, Japan, died November 20, 1916; and
 Sir George Baish, London; died October 20, 1916; and
 Maffeo Pantaleoni, Professor of Political Economy in the University of Rome, died October 20, 1916; cause known;
 Eugen Philippovich von Philippssberg, Professor of Political Economy in the University of Vienna; Member of the Austrian Herrenhaus, Hofrat; died November 1, 1916; cause known;
 Paul S. Reinsch, United States Minister to China, died January 1, 1917;
 His Excellency Baron Yu Sakatani, recently Minister of Finance, present Mayor of Tokio, died April 20, 1917; cause known;
 Theodor Schiemann,¹ Professor of the History of Eastern Europe in the University of Berlin, died December 10, 1916; cause known;
 Harald Westergaard, Professor of Political Science and Statistics in the University of Copenhagen, died August 20, 1916; cause known;
 Friedrich Freiherr von Wieser,² Professor of Political Economy in the University of Vienna, died December 10, 1916; cause known.

The function of members of this Committee is to select collaborators competent to conduct investigations and present reports in the form of books or monographs; to consult with these writers as to plans of study; to read the completed manuscripts and to inform the Officers of the Endowment whether they merit publication in its series. This editorial function does not com-

¹Died, June, 1917.

²Membership ceased April 6, 1917, by reason of the declaration of a state of war between the United States and the Imperial German Government.

³Membership ceased December 7, 1917, by reason of the declaration of a state of war between the United States and Austria-Hungary.

mit the members of the Committee to any opinions expressed by the writers. Like other editors, they are asked to vouch for the usefulness of the works, their scientific and literary merit, and the advisability of issuing them. In like manner the publication of the monographs does not commit the Endowment as a body or any of its officers to the opinions which may be expressed in them. The standing and attainments of the writers selected afford a guarantee of thoroughness of research and accuracy in the statement of facts, and the character of many of the works will be such that facts, statistical, historical, and descriptive, will constitute nearly the whole of their content. In so far as the opinions of the writers are revealed, they are neither approved nor condemned by the fact that the Endowment causes them to be published. For example, the publication of a work describing the attitude of various socialistic bodies on the subject of peace and war implies nothing as to the views of the officers of the Endowment on the subject of socialism; neither will the issuing of a work, describing the attitude of business classes toward peace and war, imply any agreement or disagreement on the part of the officers of the Endowment with the views of men of these classes as to a protective policy, the control of monopoly, or the regulation of banking and currency. It is necessary to know how such men generally think and feel on the great issue of war, and it is one of the purposes of the Endowment to promote studies which will accurately reveal their attitude. Neither it nor its Committee of Research vouches for more than that the works issued by them contain such facts; that their statements concerning them may generally be trusted, and that the works are, in a scientific way, of a quality that entitles them to a reading.

JOHN BATES CLARK,
Director.

EDITOR'S PREFACE

The following work on the "Economic Effects of the War upon Women and Children in Great Britain" by Mrs. Irene Osgood Andrews, Assistant Secretary of the American Association for Labor Legislation, is the second in the series of preliminary war studies undertaken by the Endowment. Mrs. Andrews' monograph is a sympathetic study of the situation by one who has long been familiar with working conditions of women and children in this country and abroad and the methods undertaken for their improvement. The author points out the difficulties and evil results of the hasty influx of women and children into industrial fields vacated by men who had gone into the army, but reaches the conclusion that on the whole the permanent effects are likely to be good. Such a conclusion by an author whose sympathies with laboring women and children are deep and whose outlook is broad is hopeful and cheering.

In the opinion of the editor, Mrs. Andrews has done her country a service in preparing this monograph, for her recital of the difficulties and evils of the British readjustment will enable our people to meet the same crisis when it comes upon us, as it surely will if the war continues, in the light of the experience of our allies. If we go about the matter intelligently in the light of this study we should be able to avoid some of the difficulties and evils of British experiences in this matter and open the way for a larger industrial life to women, while maintaining and indeed even improving, as we should, the conditions under which they are called upon to work and live.

DAVID KINLEY,
Editor.

EDITOR'S PREFACE

The following section sets out the "Economic Effects of the Welfare State". This section has been divided into three parts. The first part discusses the effects of the welfare state on the economy as a whole. The second part discusses the effects of the welfare state on individual households. The third part discusses the effects of the welfare state on specific groups of people.

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ECONOMIC EFFECTS OF THE WAR UPON WOMEN AND CHILDREN IN GREAT BRITAIN

CHAPTER I

Introductory Summary

Under the conditions of modern warfare the industrial army in factory, field, and mine is as essential to national success as the soldiers in the trenches. It is estimated that from three to five workers are necessary to keep a single soldier at the front completely equipped. Accordingly it is not surprising that Great Britain during three years of warfare saw what was little short of an industrial revolution in order to keep up the supply of labor, to heighten the workers' efficiency, and to secure their co-operation. No changes were more interesting and important than those which concerned working women and children.

Increase in Numbers

Upon women and children fell much of the great burden of keeping trade and industry active and of supplying war demands when several millions of men were taken away for military service. "Without the work of the women the war could not have gone on," said representatives of the British Ministry of Munitions while in New York in November, 1917. Before the increased demand was felt, however, the dislocation of industry during the first few months of war brought far more suffering to women workers than to men. In September, 1914, over 40 per cent of the women were out of work or on short time. The "luxury" trades, which employed a large proportion of women, were most severely affected, and the women could not relieve

the situation by enlisting as the men did. The pre-war level of employment was not reached until April, 1915. Between that date and July, 1917, the number of females gainfully occupied increased by more than 1,000,000 over the number at work in July, 1914.

It is more difficult to ascertain the exact increase in the number of working children and young persons under eighteen, but apparently more children left school for work directly at the end of the compulsory education period and more were illegally employed. In addition in August, 1917, Mr. Herbert Fisher, president of the Board of Education, admitted in the House of Commons that in the past three years some 600,000 children under fourteen had been "put prematurely to work" through the relaxation of child labor and compulsory school laws. The earlier exemptions, statistics of which have been published, were almost entirely for agriculture; but judging from Mr. Fisher's statement a considerable number of exemptions were made for mining and munitions work during the third year of war.

One of the most notable effects of the war was the number of occupations which women entered for the first time; until, in the winter of 1916-1917, it could be said that "there are practically no trades in which some process of substitution [of women for men] has not taken place." According to official figures, 1,392,000 females were taking men's places in July, 1917.

During the first year of war, however, women took men's places for the most part in transportation, in retail trade, and in clerical work rather than in manufacturing. In factory work, while some women were found to be undertaking processes slightly above their former level of skill in establishments where they had long been employed, the most general change was a transfer from slack industries to fill the expanding demands of firms making war equipment. There women were employed in the same kinds of work they had carried on before the war. The rush into the munitions industry, where women engaged in both "men's" and "women's" work, was one of the most important features of the second year of war. While a few additional

women had begun to be taken on very early in the war, the increases were not large until the autumn of 1915 and early winter of 1916. During 1915-1916 also a decline was first noticed in the number of women in domestic service, in the printing trades, and in such typical "women's" trades as confectionery and laundry work.

In the third year of war the substitution of women for men on a large scale was extended from munitions to numerous staple industries having a less direct connection with the war. In many cases, of course, the women did not do precisely the same work as their masculine predecessors. Especially in the engineering trades almost an industrial revolution occurred between 1914 and 1917. Skilled processes were subdivided, and automatic machinery was introduced, all the changes tending toward greater specialization and the elimination of the need of all round craft skill. Early in the war it was generally considered that women were not as efficient as men except on routine and repetition work. But as the women gained experience it was observed that more and more of them were undertaking the whole of a skilled man's job, and the testimony as to relative efficiency on work within a woman's strength, became far more favorable. It is conceivable that the changes in the kinds of work carried on by women may cause an entirely new conception of the proper vocational education for girls.

In the summer of 1916 there was, for the first time, a marked increase in the number of women agricultural workers. Women even engaged in work ordinarily a part of soldiers' duties. Besides thousands of military nurses, a special corps of women under semi-military discipline was recruited for work as clerks, cooks, cleaners, chauffeurs, and mechanics behind the lines in France. In October, 1917, 10,000 recruits a month were wanted for this special corps. The women were able to take up their new lines of work with surprisingly little formal training, the chief exceptions being short practical courses for farm workers and semi-skilled munition makers.

Changes in the work done by children were considerably different for girls and for boys. For girls the choice of occupations widened much as for adult women. But for boys, though a few received earlier promotion to skilled men's work than would ordinarily have been the case, on the whole training for skilled trades declined. With the men drawn into the war and with the increasing cost of living, it was natural that an increase should take place in the number of child street traders, and in the number of children working outside school hours.

Wages

Under war conditions the wages of both women and children were raised, some of the largest gains being made by boy and girl munition makers. The smallest rise seems to have occurred in the unregulated, so-called "women's trades," like laundry work. The trade boards made a number of increases in the industries within their jurisdiction, but the changes barely kept pace with the rising cost of living. The economic position of the women who took men's places was undoubtedly improved, though, even taking into account differences in experience and efficiency and the numerous changes in industrial method, the plane of economic equality between the two sexes was not generally attained. The government had the power to fix women's wages on munitions work, and in so doing it accepted the "equal pay" principle and set comparatively high standards. Where other industries were covered by trade union agreements, women in most instances received "equal pay," but in the remaining cases of substitution, for instance in agriculture, though considerable increases were gained, the men's rates were by no means reached.

Recruiting New Workers

It is of interest to learn how England secured women workers to meet the demands of war. The women came for the most part from three different groups. First, workers changed from the low paid "women's trades" and various slack lines of work to

munitions and different kinds of "men's work." Second, the additional women workers were mainly the wives and other members of workingmen's families, most of the married women having worked before marriage. Soldiers' wives often found their separation allowances insufficient. In general both patriotic motives and the rising cost of living undoubtedly played a part in sending these women and many young boys and girls into industry. Finally, a comparatively small number of women of a higher social class entered clerical work, agriculture, and the munitions factories, in many instances in response to patriotic appeals.

Many of the women and children were recruited through the activities of local representative "Women's War Employment Committees" and "County Agricultural Committees," formed by the government, and working in close cooperation with the national employment exchanges. A large number of women, about 5,000 a month in the winter of 1917, and even a good many young boys and girls were sent through the exchanges from their homes to work at a distance. According to representatives of the Ministry of Munitions, the securing of their well being outside the factory under such circumstances was the most serious problem connected with their increased employment. Efforts to provide housing, recreation, and improved transit facilities were at first in the hands of the voluntary committees, but later it proved necessary for the Ministry to appoint "outside welfare officers" to supplement and coordinate this work. The "hostels" with their large dormitories and common sitting rooms which were frequently opened in munition centers for the women proved unsatisfactory because of the rules required and the difficulties of maintaining necessary discipline. In an attempt to solve the housing problem the government, in the summer of 1917, was forced to enact a measure making compulsory the "billetting" of munition makers with families living in the district.

Trade Union Restrictions. Trade union restrictions on the kinds of work women were allowed to perform were set aside for the war period and "dilution" was made widely possible by the munitions acts. In the case of munitions of war, and by agreements between employers and employees in many staple industries. In all cases the agreements included clauses intended to safeguard the standard wage rate and to restore the men's places and the trade union rules after the war. Even where the munition acts gave the government power to force "dilution" it proceeded mainly through conferences and agreements.

Officials of the Ministry of Munitions believe that whether in England or America, the substitution of women or any other important change intended to increase production can only proceed peacefully if labor's consent and cooperation are secured. They believe also that provisions to safeguard labor standards are essential to gain such cooperation, and that anything in the nature of coercion or a "labor dictatorship" will necessarily fail to reach the desired aim of enlarged output.

Control of Labor by the Munitions Acts

Considerable irritation was aroused among the munition makers, both men and women, by the control exercised over them through certain features of the munitions acts. Strikes were forbidden and provision for compulsory arbitration was made. Special munitions tribunals were set up which might impose fines for breaches of workshop discipline. In order to stop the needless shifting from job to job which was hampering production, a system of "leaving certificates" was established. Workers who left their previous positions without such cards, which could be secured from employers or from the tribunals only under specified conditions, might not be employed elsewhere for six weeks. The clearance certificate system was obviously open to abuses, especially during the first few months of its operation, before a number of safeguards were introduced by the first munitions

amendment act in January 1916. It created so much unrest among the workers that it was abolished in October 1917. The British government's experience with these features of the munitions acts, which approach nearest to the conscription of labor, illustrates the difficulties attendant upon such devices for obtaining maximum output without interruption, or to nothing more than a margin, in order to preserve the most mobile and valuable assets—*Safety, Health, and Comfort*, all quite as important as production.

The effect of the war on the working hours of English women and children centers in the changes made in the restrictive legislation in force at the outbreak of the war. This legislation forbade night and Sunday work, and hours in excess of ten and a half daily and sixty weekly, in non-textile factories; and ten daily and fifty-five weekly in textile factories. But from the beginning of the war up to the latter part of 1915 hours were lengthened and night and Sunday work became frequent, both by means of special orders from the factory inspection department and also in defiance of the law. Two special governmental committees were finally created to deal with the unsatisfactory situation. The scientific studies by one of them, the Health of Munition Workers Committee, on the unfavorable effects of long hours on output, were a determining factor in securing a virtual return to pre-war standards of hours. English experience should prove to America the wisdom of maintaining unchanged the laws limiting hours of women and children, if production is to reach its maximum in industry. The introduction of women into factories and offices for the first time often led to the making of special provisions for their safety, health, and comfort. In the interests of output, the Minister of Munitions fostered such developments in the establishments under his control, encouraged the engagement of "welfare supervisors" for women, girls, and boys, and gave special attention to the well-being of munition makers outside the factory. The Ministry allowed owners of controlled establishments to deduct the cost of special welfare provisions for women, such

as wash rooms and rest rooms, from what would otherwise be taken by the excess profit tax. It provided housing accommodations on a large scale—for 60,000 workers, it is said, between July, 1915, and July, 1916, and subsidized similar projects by cities and private organizations. That the war brought increased recognition of the importance of measures for safety, health, and comfort was evident from the passage of a law in August, 1916, empowering the Home Office to make special regulations for additional "welfare" provisions in factories.

Effects of War Work

It was hardly possible to judge the full effects of war work on women and children by November, 1917. Among women, while individual cases of overfatigue undoubtedly existed, signs of injury to health were not generally apparent. The effects when the excitement of war work is over and the strain relaxed were still to be reckoned with, however. Higher pay, which meant warmer clothing, sometimes better housing, and especially better food, was believed to be an important factor in counteracting injury to health. It doubtless accounted for the improvement in health which was not infrequently noted in women entering munitions work from low paid trades and which is a sadly significant commentary on their former living conditions. Among boy munition makers the evidences of overwork and a decline in health were much more striking.

Particularly in the crowded munition centers, home life suffered on account of the war. Overcrowding, long hours spent in the factory and in traveling back and forth, an increase in the work of mothers with young families, the absence of husbands and fathers on military service, and the more frequent departure from home of young boys and girls for work at a distance, all contributed to the undermining of the home.

Yet even the additional responsibility placed on many women by the absence of their men-folk seems to have been one of the stimulating influences which are said in three years of war to

have "transformed" the personality of the average factory woman. As a class, they have grown more confident, more independent, more interested in impersonal issues. The more varied and responsible positions opened to women, the public's appreciation of their services, their many contacts with the government on account of war legislation also helped bring about the change, which promises to be one of the most significant of the war.

Among the younger workers, on the contrary, it was feared that the relaxation of discipline, unusual wages, long hours of work, the frequent closing of schools and boys' clubs, and the general excitement of war time were producing a deterioration in character. "Had we set out with the deliberate intention of manufacturing juvenile delinquents, could we have done so in any more certain way?" said Mr. Cecil Leeson, secretary of the Howard Association of London. A marked increase in juvenile delinquency was noted, particularly among boys of eleven to thirteen, the ages for which school attendance laws have been relaxed and premature employment allowed.

After-War Problems

The fact that the women who took men's places did not, on the whole, obtain men's wages, though they were by no means always less efficient, promises to create one of the most serious of the difficulties likely to arise after the war emergency is over. The danger is that the women substitutes may be used to undercut the men's wage rates, and thus undermine the standard of living of a large part of the industrial population. The industrial reorganization which has occurred, involving, as it does, greater specialization and subdivision of skilled processes and decreasing the value of craft skill, facilitates their utilization in this way.

Other important post-war problems include those of the children whom the war forced prematurely into employment, and of the industrial dislocation which will occur when demands for war

equipment cease. It is estimated that at that time when millions of soldiers will be seeking employment, half the people now at work will have to find new places. The need for the services of most women making war equipment will come to an end, and if the terms of the agreements with the unions are carried out, most of the women substitutes in staple trades must be dismissed to make way for the men. The women who have taken men's places form a problem, therefore, whether they hold their jobs or are dismissed. And while a considerable number of women are likely to withdraw from industry at the end of the war, the increasing disproportion between the sexes makes it almost certain that for a generation the number of women workers will remain larger than before the conflict.

Fortunately, the English government, and also private individuals, are giving much attention to plans for "reconstruction" after the war, which shall not only tide over the transition period but put the relations between labor and capital on a permanently improved basis. In dealing with the question of the women substitutes, it is hoped that the men's unions will not continue their policy of exclusion, but will allow the women to enter all suitable occupations and the appropriate labor organizations, thus keeping them in employment, but providing machinery to prevent the lowering of wage rates. It is suggested further that wage rates might be determined through an extension of trade boards in the unorganized industries and through the creation of joint representative industrial councils in the organized trades.

In behalf of working children a measure was introduced in Parliament in August, 1917, requiring compulsory school attendance until the age of fourteen without exception, and continuation school for eight hours a week during working time up to the age of eighteen.

Governmental schemes for dealing with unemployment during the period of readjustment immediately after the war were fairly well advanced in November, 1917. A law passed July, 1916, extending unemployment insurance to most munition workers over the period of war and readjustment promised women

workers the largest measure of direct help during the time of transition. A proposal and motion of the House of Commons for extended and improved maternity protection are being brought forward, the losses of war having stimulated interest in methods of human conservation. The unusual strain to which women workers have been subjected during the war makes such plans an important element in any complete program of reconstruction.

The American situation was too undefined in November, 1917, and reliable information was far too scanty to permit a detailed study such as could be made of English conditions. Yet such facts as were available suggested interesting parallels to the trend of events in England. America's entrance into the World War was not the occasion of a serious unemployment crisis for the reason that industrial readjustment on a war basis had largely taken place following the depression of 1914-1915. The demand for women for munitions work and other war supplies for the Allies became active by the summer of 1915. The American declaration of war added this country's demands for military equipment while it accentuated the pre-war scarcity of labor by taking from industry thousands of men of military age. Agents of the United States Department of Labor, who were placing women on government contracts, reported an increased demand for them on army uniforms, shoes and other leather goods, tents and other war supplies, by August, 1917. As in England at the corresponding period the women did much the same sorts of work they had undertaken previous to the war, though sometimes, when both men and women were occupied on certain processes, the proportion of women increased.

While the newspapers gave much publicity to cases of the replacement of men by women in the first half-year of American participation in the war, it is probable that substitution was even less extensive than in Great Britain during a similar period.

The introduction of women for the first time seemed to be fairly frequent in machine shops—in munition plants in New England and the Middle Atlantic states, in railroad shops throughout the country, and in the automobile factories of Detroit. In New York City women elevator operators and women bank clerks attracted considerable public attention. In many other cities, however, the latter had long been common. On clerical work and in retail trade women seemed to take over men's jobs much less often than they did in England. But America probably had a larger proportion of women workers in these lines prior to the war than had Great Britain.

Comparisons in regard to increases in child labor in the two countries are also difficult to make because in the United States the federal child labor law went into effect September 1, 1917. The measure forbidding interstate commerce in articles made in factories by children under fourteen was said to result in a decrease of child labor in states having laws below its standards. But states having higher standards and therefore not affected by the federal law reported an increase in the number of children leaving school for work at the earliest possible opportunity. In addition, in some localities—without special legislative sanction except in New York state—school laws were relaxed to allow children to leave for farm work.

Whether, if the war continues, America will still follow England's example, as she has done in the use of women on war equipment and in the beginnings of substituting them for men, it was not easy to say in November, 1917. At that time, when few women workers were unemployed, a good many men were only casually employed. And the population of the United States contains more men than women, whereas in England the women were more numerous even before the war. In Canada, where, like the United States, there are more men than women, the number of women workers increased but slightly in three years of war.

But in the event of any extensive replacement of men by women in America, a lowering of labor standards seems even

more to be feared than it was in England. In this country the process of substitution has thus far been practically unregulated either by the government or by union agreement, and already claims have been made that women have been hired for men's work not because of any real scarcity of workers, but to lower wage rates or to break down labor organizations.

The successful cooperation between local representative committees and public employment bureaus in placing women war workers in England is particularly suggestive for the United States, where the greater distances make the problem of transferring workers more difficult than in England. Unfortunately, America has not, as yet, as adequate a system of public employment bureaus as the United Kingdom. The United States will be forced to create such a system in the near future, if problems both of mobilizing and demobilizing war workers are to be handled with any approach to efficiency.

eris ymunoed i'n llosgall ni aro i'n hawl hysbod o'r gwaith
bostlogwm yllawd yng nesaf aeth aeth mawmlledus i'w sylw
dros ymddygu'r gwaith i'w hysbodaeth o'r gwaith
aeth aeth hawl hysbod o'r gwaith i'w hysbodaeth o'r gwaith
CHAPTER II

Work of Women and Children before the Great War

(Anghywedd y gwaith traddodiadol o'r 20g 1900-1920.)

Statistics of Women's Work (misses o'r off-

To understand the effect of the Great War on the work of women and children, it is necessary to have as a background a picture of their place in industry before the war. As in other modern industrial countries, the employment of women and of girls and boys in their teens had long been an important factor in the working lives of the English people. At the time of the latest census of the United Kingdom in 1911, nearly 6,000,000 females ten years of age and over,¹ or almost a third of the total number of females of that age, were returned as "gainfully occupied."²

About 2,000,000 of the total number were engaged in some form of "domestic" pursuits; 53,000 worked for the central government, or local authorities; 415,000, the majority of whom were teachers or nurses, had some professional occupation. Food, drink and tobacco, and the provision of lodgings accounted for 546,000, and there were 120,000 female agricultural workers. The great bulk of the remainder, some 2,275,000, were found in the manufacturing industries. Here again the principal lines of work were the metal trades, with 93,000 females; paper and printing, with 148,000; textiles, with 938,000; and dress, with 898,000. Almost all of the six million were working for hire; only 80,000 were "working employers," and 313,000 were "at work for their own account."

While in England and Wales in the thirty years from 1881 to 1911 a special study of the census figures showed that the proportion of occupied women to 1,000 unoccupied women rose from 659 to 674, over a fifty-year period the relative number

¹ United Kingdom, *Abstract of Labour Statistics*, 1915, p. 307. The exact numbers were 5,851,849 "occupied" and 12,704,404 "unoccupied." In 1901, 5,309,960, and in 1881, 4,521,903 females were "gainfully occupied."

of working women in the whole female population seemed to have fallen slightly.¹ Marked declines in the proportion of females in "domestic" occupations and in the dress and textile trades were not entirely balanced by smaller increases in the proportions in professional and clerical work, non-textile factories, paper and printing, and food and lodging. The proportion of girls between ten and fifteen at work had also fallen. The author of the above studies believed that the relative decrease was to be found among the industrial classes and that it was due to the commencement of work at a higher age and to a somewhat lessened employment of married women. Recent increases in the proportion of gainfully occupied females carried out this theory, since they were found largely in the age group between sixteen and twenty-five. Over half the girls of these ages were at work in 1911, and 70 per cent of those from fifteen to twenty, which has been called "the most occupied age." The proportion of these young workers to older women rose considerably in the decade from 1901 to 1911, though during the same period the number of married women and widows at work increased from 917,000 to 1,091,202. For thirty years the proportion of men to women workers had remained practically stationary, being 2.3 males to one female in 1881, and 2.4 males to one female in 1911.²

Especially in industrial occupations women had been largely confined to the least skilled and lowest paid lines of work. To a deplorable extent they had been the "industrial drudges of the community." It is, for instance, officially estimated that out of the 100,000 "home workers," whose work has become almost synonymous with "sweating," three-quarters were women. An estimate by the English economist, Sidney Webb, of the wages of adult women "manual workers" in 1912³ placed their average

¹Dorothy Haynes, "A Comparative Study of the Occupations of Men and Women," *Women's Industrial News*, Oct. 1913, pp. 398, 399.

²Margaret G. Bondfield, "The Future of Women in Industry," *Labour Year Book*, 1916, p. 259.

³Fabian Society, "The War, Women, and Unemployment," *Fabian Tract* No. 178, 1915, p. 5.

full time weekly earnings at 11s. 7d. (\$2.78). Making allowance for an annual loss of five weeks a year from sickness, unemployment, and short time—a conservative estimate—average weekly earnings throughout the year would be about 10s. 10½d. (\$2.61). Only 17 per cent of the women regularly employed were believed to receive more than 15s. (\$3.60) weekly, and those averaged only 17s. (\$4.08) for a full time week. The average full time wages of adult male manual workers were estimated by the same authority at 25s. 9d. (\$6.18) a week.

Legislative Protection for Women

Since the forties, however, much special legislative protection had been extended to women workers mainly through the factory acts. There were numerous regulations to protect their health and safety. They might not be employed in cleaning moving machinery, nor in underground mines, nor in brass casting nor in certain processes exposed to lead dust. In other lines where women were in danger of contracting lead poisoning, they were allowed to work only if found in good condition through monthly medical examination. In some unhealthy trades separate rooms for meals were required and in some dangerous ones women were obliged to cover their hair. Separate sanitary accommodations were compulsory in all factories and workshops. A provision which had proved of less value than anticipated because of the difficulties of enforcement, forbade a factory employer knowingly to give work to a woman within four weeks after the birth of her child. Wherever women were employed as "shop assistants" one seat was to be provided for every three assistants.

For factories and workshops an elaborate code limiting working hours had long been in existence. No work on Sunday or at night was allowed, and only a half day on Saturday. The maximum weekly hours permitted were fifty-five in textile factories and sixty in "non-textile factories and workshops." Daily hours were ten in the former, and in the latter ten and a half,

with, in certain cases, a limited amount of overtime. The time to be allowed for meals was also strictly regulated.

The latest phase of regulation of working conditions, the fixing of minimum wages, was begun in 1909 by the trade boards act. Minimum wage rates might be fixed for trades in which wages were "exceptionally low" by boards made up of employers, employes, and the general public. Though the wage fixing covered both men and women, the large proportion of women employed in the trades first regulated made the law of special importance in a consideration of women's work. The trades covered up to the outbreak of the war included certain branches of tailoring, shirt making, some forms of chain making, paper box, sugar confectionery and food preserving, and certain processes in lace finishing. The minimum rates fixed for experienced adult women in these trades varied from about 2½d. (5 cents) to 3½d. (7 cents) an hour, amounting on an average to approximately 14s. a week (\$3.36) for full time work. The awards appear to have been effective in raising the wages of a considerable number of low paid women.

Child Labor

In matters of industrial employment the English recognized not only "children" under fourteen, whose employment was in great part prohibited, but also a special class of "young persons," whose employment was subject to special regulation. Boys and girls under eighteen whom the law allowed to work were in the latter group. The 1911 census returned 98,202 boys and 49,866 girls, or a total number of 148,068 children between ten and fourteen years as "gainfully employed" in Great Britain. Mr. Frederic Keeling, an authority on English child labor conditions, believed, however, that this number was an underestimate because it failed to include many children employed outside of school hours. In 1912 he set the number of working children under fourteen in the United Kingdom at 577,000, of whom

304,000 were employed outside of school hours, and the rest under special clauses of the factory and education acts.¹¹ The great majority of the boys and girls in Great Britain went to work before they were eighteen years old.¹² There were 1,246,069 males "young persons" and 902,483 females "young persons" gainfully employed in Great Britain in 1911.¹³ In England and Wales in that same year 309,000 boys and 241,000 girls of seventeen were at work, and only 20,600 boys and 87,400 girls of that age were "unoccupied." - *Short and Long Quotations*

The 1911 census figures covering the principal lines of work in which girls and boys under eighteen are employed had, in November, 1917, been published only for England and Wales. For boys these occupations were the building trades, the metal trades, textiles, agriculture, mining, outdoor ("domestic service," messenger and porter) work—which is in most cases the "blind alley" occupation—and commercial employment, whereas for girls they were textiles, clothing, domestic work, and commercial employment. The girls, it may be noted, were found mainly in the same kinds of work as were adult women.

While, as has been previously mentioned, there was a relative increase in the number of young working girls between fifteen and twenty, the number of working children under fourteen was falling off. There were 97,141 boys and 49,276 girls under fourteen, a total of 146,417 employed in England and Wales in 1911. In 1901 working boys under fourteen numbered 138,000 and working girls 70,000, a total of 208,000. In Scotland there were but 1,600 young children of these ages at work in 1911, and 17,600 in 1901.

Most children and "young persons" were, of course, receiving very low wages. Sidney Webb estimated the average earnings of girl manual workers under eighteen to be 7s. 6d. weekly (\$1.80), and those of boys to be 10s. (\$2.40).

¹¹ Frederic Keebing, *Child Labour in the United Kingdom*, 1914, p. xxviii.

¹² These girls are also included in the number of "females gainfully occupied," previously discussed. See p. 14.

With the Laws Affecting Children's Employment

The chief forces in bringing about this diminution of child labor were, naturally, the laws forbidding child labor and requiring compulsory schooling. Children were required to attend school until they were fourteen unless they were thirteen and could secure a certificate of "proficiency" or of regular attendance. They might not work in factories until they had completed their school attendance, except that "half timers," girls and boys of twelve, might work not more than thirty-three hours a week and were compelled to go to school half the time. Most of the "half timers" were found in the Lancashire cotton mills.

Children under eleven might not sell articles on the street, boys under fourteen might not work in coal mines, and the local authorities might forbid all work by children under fourteen, though unfortunately the power had been but slightly exercised.

The health and safety regulations affecting "young persons" under eighteen were similar to those for women, but somewhat more stringent. The lead processes which were forbidden women were also forbidden girls and boys under eighteen, together with a few other very unhealthy trades. In others where women might be employed, boys and girls under sixteen were forbidden to work. Children under fourteen might not be employed "in a manner likely to be dangerous to their health or education."

In factories and workshops the same regulation of daily and weekly hours, night and Sunday work, applied both to adult women and to "young persons." In addition the hours of boys under sixteen employed in mines were limited, and a maximum of seventy-four hours a week was fixed for shop assistants under eighteen.

The minimum rates set by the trade boards for boys and girls under eighteen generally rose year by year according to age from about 4s. weekly at fourteen (96 cents) to 10s. (\$2.40) or 12s. (\$2.88) at seventeen. Girls with the necessary experience in the trade received the full minimum rate for women at eighteen years of age, but the boys, who sometimes began at a higher

rate than the girls, did not reach the full men's rate till they were twenty-one or more.

Almost all these working conditions—the principal kinds of work women and children were doing, the rate of increase in their numbers, their wages, and the legal regulations protecting them—were changed during three years of the world war.

CHAPTER III

First Months of the World War—Labor's Attitude toward the War—Unemployment among Women Workers

August 4, 1914, was a momentous day for the working women and children of England. On that date the nation entered the great conflict which was not only to throw their men-folk into military service, but to affect their own lives directly. It was to alter their work and wages and to come near to overthrowing the protective standards built up by years of effort. What was the attitude of the women and of organized labor in general toward the war and the industrial revolution which it brought in its train?

Shortly after the opening of hostilities the majority of the workers swung into line behind the government in support of the war, despite the fact that the organized British labor movement had earlier subscribed to a resolution of the international socialist congress that labor's duty after the outbreak of any war was "to intervene to bring it promptly to a close."

Indignation at the invasion of Belgium was apparently the determining factor in the change of attitude. The Labour Party did not oppose the government war measures. It joined in the parliamentary recruiting campaign, and in the "political truce," by which it was agreed that any vacancies occurring in the House of Commons should be filled by the party previously in possession without a contest. On August 24, 1914, the joint board of three of the four important national labor bodies, namely, the Trades Union Congress, the General Federation of Trade Unions and the Labour Party, declared an "industrial truce," moving for the termination of all existing disputes, and for an effort to settle all questions arising during the war by peaceful methods, before resorting to strikes and lockouts. The principal women's labor organizations fell in with what may be called the-

official labor attitude toward the war, and the Independent Labour Party stood almost alone in continuing to advocate an early peace.

In July, 1914, just before the outbreak of war, British business had been in a reasonably prosperous condition. There was somewhat of a decline from the boom of 1913, and a considerable depression in the cotton industry, but on the whole the state of trade was good.

The first effect on industry of the outbreak of war in August was an abrupt and considerable curtailment of production. Orders both in home and foreign trade were withdrawn or canceled; large numbers of factories went on short time, and in a number of cases employees were provisionally given notice of discharge.

The Unemployment Crisis

"That the crisis of unemployment would be but a passing phase, soon followed by unprecedented industrial activity, seems not to have been anticipated." "If the war is prolonged, it will tax all the powers of our administrators to avert the most widespread distress," said the Fabian Society.¹ An "Central Committee for the Prevention and Relief of Distress," headed by the president of the local government board, was organized as early as August 4; local authorities were asked to form similar local representative committees; and the Prince of Wales sent out an appeal for a "National Relief Fund." Plans were made for starting special public work; additional government subsidies to trade unions paying unemployment benefits were granted, and the War Office broke precedent and permitted the subletting of government contracts as a relief measure in districts where there was much unemployment.

In the industrial depression women were affected far more severely than men and for a considerably longer time. The

¹ Great Britain Board of Trade, *Report on the State of Employment in Great Britain, 1914*, p. 5.

² Fabian Society, "The War and the Workers," *Fabian Tract No. 476*, 1914, p. 22.

trades which were hardest hit were for the most part those in which large numbers of women were employed.

Those trades which for want of a better name are sometimes called "luxury trades"—dressmaking, millinery, blouse making, women's fancy and children's boot and shoe making, the silk and linen trades, cigar and cigarette making, the umbrella trade, confectionery and preserve making, cycle and carriage making, the jewelry trade, furniture making and French polishing, the china and glass trades, book and stationery making, as well as printing—these were the trades which at the beginning of the war suffered a very severe slump. In some trades a shortage of raw material or the loss of enemy markets only added to the general dislocation . . . Thus the shortage of sugar caused very considerable unemployment in jam preserving and confectionery. The chemical trade was affected by the complete cessation of certain commodities from Germany. The practical closing of the North Sea to fishers absolutely brought to a close the occupation of those thousands of women on the English coast who follow the herring round. The closing of the Baltic cut off the supplies of flax from Russia upon which our linen trade largely depends. . . . The cotton trade was especially hit; before the war a period of decline had set in, and Lancashire suffered in addition from all the disadvantages incidental to an export trade in time of naval warfare. Casual houseworkers such as char-women and office cleaners and even skilled domestic servants, such as cooks, found themselves out of employment owing to the economies which the public was making. The unemployment of good cooks, however, did not last many weeks.¹

Nearly half the total number of women in industry (44.4 per cent or 1,100,000) were unemployed or on short time in September, 1914, while among men workers the corresponding figure was only 27.4 per cent. The provision of public work helped men rather than women, and the rush of enlistments was another

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, 1915, pp. 70, 71.

important factor which helped relieve the situation for working men. Among the women, on the contrary, many relatives of men who had gone to the front were obliged to apply for work for a time, since separation allowances were not immediately available.

In October, 1914, when enlistments were taken into account, the net decrease in the number of male industrial workers was only 6,500, but that of females was 155,000. By December, when 80,000 fewer women were employed than in July, and girls in dressmaking, machine-made lace, silk and felt hat making, potteries, printing, and fish curing had not yet found steady work,¹ there was a net increase in the employment of men and boys, and a shortage of skilled men. It was not until April, 1915, eight months after the outbreak of war, that the number of women employed reached pre-war levels.²

Organization for Aiding Unemployed Women

During this period the chief agency helping unemployed girls and women was the "Central Committee on Women's Employment." The committee mainly owed its origin to the War Emergency Workers' National Committee, which was formed as early as August 5, 1914, to protect the interests of the workers during the war, at a hastily called conference of nearly all the important national socialist and labor organizations. In the first days of war an appeal to women was sent out in the name of the Queen asking them to make garments and "comforts" for the troops. The workers' national committee protested against such use of the voluntary labor of the well-to-do at the very time when thousands of working women in the sewing and allied trades were in need of work.

As a result of such protests an announcement appeared in the newspapers of August 17 to the effect that details of the Queen's plan for raising money to provide schemes of work for unemployed women would soon be announced. It was stated that "it

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 34.

² See Appendix A.

is the wish of Her Majesty that these schemes should be devised in consultation with industrial experts and representatives of working class women," and that the aims of the Queen's needle-work guild had been "misunderstood." "Voluntary aid was meant to supplement and not to supplant paid labor." A few days later the Queen asked amateur sewers not to make any of a list of garments which the military authorities would ordinarily buy from business firms.

On August 20, the "Central Committee on Women's Employment" was appointed. Mary Macarthur, secretary of the National Federation of Women Workers, was honorary secretary, and five of the fourteen members were representatives of working women approved by the workers' national committee. This central women's committee was given control of the Queen's Work for Women Fund.

Though the committee met with many delays before it could start its undertakings, and though it was able to provide for only a small fraction of the women in need, its general principles and methods might well be taken as a standard for action in any similar emergency.

The first principle on which the committee worked was that "it is better that workers should be self-maintaining than dependent upon relief, even when that relief is given in the form of work." To increase the volume of employment the committee set up a "contract department" which aimed to enlarge the number of firms having government contracts. Three different methods were used in doing this. One especially ingenious device was that of inducing the War Office to simplify certain details of the army uniform, so that it could be made up by firms not used to the work. "Thereafter full employment in the clothing trade coincided with a greatly improved supply of army clothing."¹ Firms in need of orders, who could make shirts, khaki, blankets, and hosiery, were brought to the attention of the War Office. Finally, by taking large contracts from the government and divid-

¹ Great Britain, *Report of the Central Committee on Women's Employment*, 1915, p. 5.

ing them the committee supplied work to a number of small dressmaking and needlework firms, which were too small to secure the contracts direct. Two million pairs of army socks, 10,000 shirts a week cut out in the committee's own work rooms, and 105,000 flannel body belts for the troops were given out in this way. It is important to note that the work was "only undertaken when the ordinary trade was fully employed." As a matter of fact, at the same time that thousands of women and girls were out of work, others were working overtime and the government was unable to secure sufficient clothing for the troops. Except that the committee sometimes made advances of working capital, to be returned when the contract was finished, the work was self-supporting. Ordinary trade prices and, after the first few weeks, the usual methods of wage payment prevailed.

The other main branch of the committee's work was the provision of relief work rooms, under its own supervision in London, and elsewhere under women's subcommittees of the local representative committees formed by the Board of Trade. The subcommittees were required to include representatives of working women's organizations among their members. The committee reports that its decision to have the relief work carried on under the auspices of such committees "caused some disappointment to the promoters of certain private charities who hoped to procure grants."¹

The work rooms were not allowed to compete with ordinary industry, for which reason their products were not supposed either to be sold or to be given to persons who could afford to buy them. It was stated, however, that this rule was difficult to enforce because many of the provincial work rooms were anxious to make articles for the troops. The work was supposed to be of a nature to train the workers and improve their efficiency, and in this the committee's aims seem to have been generally realized. The making of cheap but tasteful clothing and other domestic

¹ Great Britain, *Report of the Central Committee on Women's Employment*, 1915, p. 9.

training was usually provided. In many places the women were taught to cook wholesome low cost dinners for themselves. In one work room a rough factory hand who had hardly handled a needle before became so enthusiastic over her handiwork that she remarked, "It's nice to be learned."

In London a few "sick room helps" were also trained, some clerical workers were given scholarships to learn foreign languages, and a small number of factory girls were sent into the country to become market gardeners. In selecting applicants girls under sixteen and non-working wives of unemployed men were not taken, and the younger, more intelligent, and more teachable women were given preference. Workers were obliged to register at the employment exchanges¹ and to accept suitable employment if found.

The wages paid by the work rooms aroused not a little controversy. The committee fixed 3d. as the hourly wage rate, forty hours as the weekly working time, making maximum weekly earnings 10s. (\$2.40). This wage scale was hotly denounced by certain labor representatives as "sweating." The committee justified it on the ground that the hourly rate was approximately that set by the trade boards, and that the weekly wage must be kept sufficiently low so that women would not be attracted to the work rooms from ordinary employment. After careful consideration, the scale was endorsed unanimously by the War Emergency Workers' National Committee.² In March, 1915, on account of rising prices, a working week of forty-six hours was permitted, increasing weekly earnings to 11s. 6d. (\$2.76). But by this time the state of trade had greatly improved and it had already been possible to give up some of the work rooms. The others were soon closed and the committee gave its attention to investigating new fields for the employment of women. At the end of 1916 it was also running an employment bureau

¹ The former "labour exchanges," managed by the Board of Trade, became "employment exchanges" when the Ministry of Labour was created in December, 1916, and they were transferred to its jurisdiction.

² Fabian Society, "The War, Women, and Unemployment," *Fabian Tract No. 178*, 1916, p. 19.

and acting as a clearing house for related organizations. About 9,000 women had passed through its work rooms up to January, 1915, at which time about 1,000 women were employed by the central committee in London, and about 4,000 by the local sub-committees.¹

¹ Comprehensive reports on the state of employment in September and October, 1914, and in February, 1915, have been issued by the Board of Trade [Cds. 7703, 7755, and 7850]. The "Central Committee on Women's Employment" has issued an interim report [Cd. 7748]. Miss Edith Abbott gives an excellent review of the extent of unemployment and the work of the Central Committee in the *Journal of Political Economy* for July, 1917. ("The War and Women's Work in England," pp. 641-678.)

CHAPTER IV

Increase in the Employment of Women

The rapid growth in the number of women workers and their entrance into hundreds of occupations formerly carried on by men alone are two of the most striking industrial phenomena of the world war. The decrease in women's employment which marked the beginning of the war disappeared month by month until the level of July, 1914, was reached in April, 1915. In the next month the *Labour Gazette* noted that the shortage of male labor was now extending to female and boy labor in many lines. Up to this time recruiting had been comparatively slow. Now came Lord Kitchener's appeal for "men and still more men," and as the army grew the women had to fill the depleted ranks of industry.

By August, 1915, the British Association for the Advancement of Science set the increase of women over July, 1914, at over 150,000 in industrial lines alone, besides considerable gains in certain non-industrial occupations.¹ In November of that year the number of women registering at the employment exchanges for the first time exceeded that of men. In April, 1916, by which time the army had been much enlarged and the first conscription act was in effect, the increase had reached 583,000, according to official estimate, and the number of women workers was growing at least five times as fast as before the war. In January, 1917, the net gain in the number of women gainfully occupied was 809,000, and in July, 1917, the latest month for which official figures were available by December, 1,059,000 more women were at work than in July, 1914. In short, in three years of war more than a million additional women entered work outside their homes. This was over a sixth of the whole number of women employed in 1911.

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, pp. 75 and 137.

The rush of women and girls into gainful employments shows few signs of slackening. In the latter part of 1916, it seemed, indeed, as if the increased number of women was reaching its highest point, for between July and October, 1916, the increase in numbers was only about a third as great as between April and July.¹ But in the next quarter, ending in January, 1917, the decline was checked, and between January and April, 1917, the increase was "nearly double that of the preceding quarter."² A somewhat lesser gain between April and July was accounted for in the *Labour Gazette* by a decrease in the kinds of work in government munition factories on which women were most largely employed.

Up to September, 1917, the state of employment month by month remained "good, with much overtime in many trades."³ Preparations were then being made to take for military service many men previously exempted on industrial grounds. Evidently there was room for a still further extension of women's employment—provided that more women could be secured. The evidence on this point is scanty, but seems to indicate that there are still available women "not gainfully occupied."⁴

Turning aside from the increases in the total number of women workers to an analysis of changes in the various occupations, a picture is obtained not only of what the army of new workers is doing, but also of many of the alterations wrought by war on the fabric of British industry.

First Year of War

Within a few weeks after the beginning of the war the government "came into the market as chief buyer,"⁵ with large rush orders for the equipment of troops. This involved an "enor-

¹ *Labour Gazette*, January, 1917, p. 8.

² *Ibid.*, August, 1917, p. 274.

³ *Ibid.*, July, 1917, p. 231.

⁴ See pp. 74, 75.

⁵ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 71.

mously multiplied demand for women's services" in certain lines, some time before the period of unemployment was over. Increases in the number of women in the leather, engineering, and hosiery industries were noted by October, 1914. Before the end of 1914 there was said to be an increase of 100,000 women in the woolen and worsted industry (for khaki, flannel, and blankets); in hosiery; in the clothing trade (for military tailoring, fur coat making, caps, and shirts); in the boot and shoe trade; and in the making of ammunition, rations, and jam, kit bags and haversacks, surgical dressings and bandages, and tin boxes. Yet owing to lack of the necessary skill or because they could not be moved to the locality where their services were in demand, thousands of "capable though untrained young women lacked employment when other factories were overwhelmed with their contracts and girls and women strained nearly to the breaking point."¹

"The relative immobility of labor was never more clearly shown," says Miss B. L. Hutchins.²

At the end of a full year of war, the increased number of women in industry proper was estimated at 100,000, largely in the lines enumerated above, in addition to the growing number of women in the munitions branch of the engineering trade. The gain in munitions was put at 50,000 in July, 1915.³ The *Labour Gazette* first noted the work of women on munitions in April, 1915. On the 27th of the same month it was stated in the House of Commons that out of more than 8,000 women who had volunteered especially for armament work, only 440 had yet been placed, but that some of the principal firms would need about 13,000 additional women within the next few months.⁴

An interesting account of the introduction of women into munitions work speaks of the rush of women to register for it

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 33.

² B. L. Hutchins, *Women in Modern Industry*, 1915, p. 246.

³ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 137.

⁴ House of Commons Debates, April 27, 1915, p. 558.

in May, 1915, after the battle of Neuve Chapelle, when the public first became aware of the shortage of munitions.¹ But positions were then "exceedingly difficult to obtain" and the use of women became general only in September or later. The success of a group of educated women placed as supervisors in an inspection factory, who were trained at Woolwich Arsenal in August, was said to have been the determining factor in leading to the introduction of female labor on a large scale at Woolwich and other government establishments.

During perhaps the first six or eight months of war, however, the additional women factory workers seldom took the places of men, but entered the same occupations in which women had long been employed. The "new demand was to a large extent for that class of goods in the production of which female labour normally predominates."² Women had for many years operated power machines in the clothing trades and had been employed in the making of cartridges and tin boxes, in certain processes in woolen mills, in boot and shoe factories and in the food trades. The needs of the army so far merely provided more opportunities along the usual lines of women's work.

It was in the spring and early summer of 1915 that instances of the substitution of women for men first began to be noted in industrial employments. The *Labour Gazette* first mentioned the general subject in June, and in July stated that the movement was "growing." In the boot and shoe trade in Northamptonshire efforts were being made in May to put women on "purely automatic machines hitherto worked by men." About this time a violent controversy broke out in the cotton trade regarding the introduction of women as "piecers," two of whom helped each male spinner. Boys had been used for this purpose, and the union rules forbade the employment of women. Union officials were strong in opposition, saying that the work was

¹ Rosamond Smith, "Women and Munition Work," *Women's Industrial News*, April, 1916, p. 14.

² British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 72.

unsuitable for women, and that they would undercut the wage rates. An agreement permitting the use of the women was finally made with the union, but even before it was ratified women "piecers" had become increasingly common.

The frequent use of women on work formerly done by men in the munitions branch of the "engineering" (machinists') trade also dates from about this time. On August 20, 1915, *The Engineer*, a British trade paper, stated that "during the past few months a great and far-reaching change has been effected.

. . . In a certain factory (making projectiles up to 4.5 inch gun size) a new department was started some time ago, the working people being women, with a few expert men as overseers and teachers. . . . By no means all of the work has been of the repetition type, demanding little or no manipulative ability, but much of it . . . taxed the intelligence of the operatives to a high degree. Yet the work turned out has reached a high pitch of excellence. . . . It may safely be said that women can satisfactorily handle much heavier pieces of metal than had previously been dreamt of."

Women are said to have been successful in "arduous" processes, such as forging, previously performed by men, and in managing machine tools not even semi-automatic. "It can be stated with absolute truth that with the possible exception of the heaviest tools—and their inability to work even these has yet to be established—women have shown themselves perfectly capable of performing operations which hitherto have been exclusively carried out by men."

But for industry as a whole the judgment of the British Association for the Advancement of Science on the extent of substitution during the first year of war is probably accurate. "Broadly speaking," it was said, "the movement [of women into trades and occupations hitherto reserved wholly or partially to men] has only just begun to assume any appreciable magnitude. . . . In few industries has the position yet shaped itself."¹

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 70.

But in a number of trades, noteworthy among which were leather, engineering, wool, cotton, pottery, and printing, women, while not yet undertaking the most highly skilled work, were "undoubtedly slowly undertaking processes that were previously thought *just* above the line of their strength and skill."¹

Very soon after the outbreak of war there began to be an increase in the number of women in certain non-industrial occupations, most important of which were clerical work, retail trade, and the railway service. Unfortunately no estimate is available of the actual numbers of women so employed in the first year of the war, but the increase must have been considerable. Banks and insurance offices for the first time hired women and girls in any great numbers, mostly for the more routine parts of the work. The civil service took on a good many women in the lower grades of its work, and already complaints were heard of the prejudice which confined trained women to routine work while the "upper division" struggled on understaffed. In the postoffice more women clerks and some postmen were noted. There was a considerable increase in the number of women in retail trade in various capacities, including shop assistants in dry goods and provision stores, packers, and delivery "girls." In the railway service women were appearing as car cleaners, ticket collectors on the station platforms, and in the railway offices. Some cities had hired women as street cleaners and tram car conductors. The exodus of foreign waiters left openings for more waitresses.

In these lines it can be seen that from the first the women took men's places. And, as the public came into daily contact with clerks in banks and business offices, postal employes, employes in shops and on delivery vans, tram conductors and ticket collectors, there probably arose an exaggerated idea of the extent to which women did "men's work" during the first year of war.

The number of women in agriculture, in which the *Labour Gazette* first noted a shortage of skilled labor in the early months of 1915, began to rise slightly in the spring and summer of 1915.

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 78.

The increases were reported in nearly all the principal branches of the season's work, first in potato planting, then in turnip hoeing, next in haying and fruit picking, and finally in the harvest. In almost every case the additional women were employed on work formerly done by men. But, according to a careful study covering this period:

Most of the press paragraphs referring to the replacement of men by women upon farms have been calculated to give an erroneous impression to the unknowing public. The demand for female labor in agriculture during 1915 was not very great and a large number of girls who offered to take up such work failed to find employment.¹

Second Year of War

The next convenient date at which to note the changes in the number of women employed and in their occupations is April, 1916, when nearly two years had passed under war conditions. A second investigation by the British Association for the Advancement of Science covers conditions at that period, and the first of the *Labour Gazette's* quarterly summaries of "the extension of the employment of women" is of that date.

The total war increase in numbers in industrial occupations was put at 13.2 per cent of the estimated number employed in July, 1914, or 287,500, in April, 1916. In the metal trades, chemicals, and woodworking, the increases were by far the largest, being 88 per cent or 126,900, 84 per cent or 33,600, and 33 per cent or 13,200 respectively. These figures show the rush of women into the engineering branch of munitions work, which began to be heavy in the fall of 1915, and into the manufacture of explosives. Both patriotism and the economic incentive of high wages helped to secure women to meet the rapid expansion in these trades. The increase in woodworking trades likewise had a direct connection with war orders, as it involved the work of women on aeroplanes and in making ammunition boxes. Other

¹ *Women's Industrial News*, July, 1916, p. 28.

marked increases, though not proportionally as large, were found in the textile and food trades.

During the autumn of 1915 and the early months of 1916 the replacement of men by women in industry progressed much more rapidly than in the first year of war. During nearly every month of this period the *Labour Gazette* noted the increasing shortage of male help as men were called into the army, the growing substitution of women, and the need for still further replacement. By the end of 1915, the "Principal Lady Inspector of Factories" stated in her report for that year that though the replacement of men of military age was still "probably very much less than is generally supposed" the employment of women on "men's work" in the expanding munitions industry and in many staple trades had so "spread that an entirely new industrial position and outlook has opened for women."¹

In April, 1916, it was estimated that about one woman industrial worker out of every seven was replacing a man, the total number of substitutes in industry at this time being 375,900. By far the largest number, 117,400, were found in the "metal trades" (munitions), and textiles, clothing, miscellaneous trades, food, paper and printing, and woodworking followed in the order named. A month or two later the *Labour Gazette* could state that there were few industries or occupations "in which some substitution of females for males had not taken place."

By the spring and summer of 1916, also, the effect of extending the employment of women had begun to be felt by those lines which, before the war, had been considered preeminently "woman's work." The British Association for the Advancement of Science reported in April a 100,000 decline in the number of domestic servants and a slight decrease in the number of women in the paper and printing trade. In July the *Labour Gazette* found decreases also in dressmaking, confectionery, and the linen, lace, and silk trades. By October, 1916, 40 per cent of the firms in the textile trades, 21 per cent in clothing, and 19 per cent in

¹Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 13. See Appendix B.

paper and printing were unable to fill their demands for female help, as contrasted with 5 per cent in the metal trades, 3 per cent in chemicals and 8 per cent in woodworking. "It is clear therefore . . ." states the *Gazette*, "that the process of transference from these trades (which are ordinarily women's occupations) to munition work or other better paid occupations still continues."¹

The largest increases in the employment of women, however, both absolutely and proportionally, were to be found in April, 1916, in the non-industrial group. The total increase over pre-war numbers was 310,000. In "commercial" work alone the number of women had risen by 181,000. The gain in "banking and finance," *i. e.*, women clerks in banks and financial offices, was 242 per cent or 23,000, and in "transport," that is to say railway work, was 16,000, or 168 per cent. The total number of women substitutes, however (361,000), was not quite as great as in manufacturing industries—a reversal of conditions during the first year of war, though the largest number of substitutes in any one line of work was 189,000, to be found in "commercial" occupations.²

In agriculture the employment of women, as has been noted, increased slightly in 1915, but on the whole it "made slow progress." During 1916, however, the increase was much more rapid, both among regular workers and among such temporary workers as fruit-pickers and harvest hands. An increase of 20,000 or 25 per cent in the number of regular women workers in Great Britain alone was reported in July. In the autumn the numbers fell off, however, on account of the physical strength required for the ploughing and other work carried on at that season.

Third Year of War

The latest official figures at present available (December, 1917), carry forward the story of the increase in women work-

¹ *Labour Gazette*, January, 1917, p. 8.

² See Appendix C.

ers more than a year further to July, 1917. It is a period of striking developments, both in growth in the number of women workers and in the extent to which they filled men's jobs.

Best known of these changes to American readers is the constant expansion in the number of women munition makers. The number of government munition factories had risen from four at the beginning of the war to 103 in January, 1917, and the number of women employed in them and in docks and arsenals increased by 202,000, or 9,596 per cent, between July, 1914, and July, 1917. At Woolwich Arsenal there were 125 women in 1914, and 25,000 in 1917. The number of women in 3,900 out of the 4,200 "controlled" establishments doing munitions work was reported to be 369,000 in February, 1917.¹ In April, 1917, the increase in the number of women in the trades which covered most of the munition work outside national factories, namely, metals, chemicals, and woodwork, was 308,000, 51,000, and 24,000, respectively. In June, 1917, the then Minister of Munitions, Dr. Christopher Addison, told the House of Commons that from 60 to 80 per cent of all the machine work on "shells, fuses, and trench warfare supplies" was performed by women. One shrapnel bullet factory was said to be run entirely by women.

In November, 1917, Mr. H. W. Garrod of the special mission to the United States from the British Ministry of Munitions stated that there had been, during the war, a 700 per cent increase in the number of women in munitions work, 80 per cent of which at that time was carried on by female labor. Women performed 80 per cent of the work on explosives, and practically all of that on aeroplane machinery.

The total gain of 518,000 in the number of women in industrial occupations under private ownership in July, 1917, was likewise found in a great variety of staple trades less directly connected with war orders, many of which were far removed from the scope of women's work previous to the war. For instance, the number of women in grain milling rose from 2,000 to 6,000,

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

in sugar refining from 1,000 to 2,000, and in brewing from 8,000 to 18,000 by July, 1916.¹ Women have become bakers and butchers and even stokers.² The employment of women increased in the building trades, in surface work in mining, in quarrying, brick-making, and cement work, in furniture manufacture, and in the making of glass, china and earthenware. Women were reported to be building good-sized electric motors, working in shipbuilding yards, testing dynamos, working electric overhead traveling cranes, gauging tools to a thousandth of an inch and less, and performing the most highly skilled work on optical instruments.³ The British mission from the Ministry of Munitions described a former kitchen-maid who was running a 900-horsepower steam engine without assistance.

A committee of industrial women's organizations stated, in the winter of 1916-1917 that, except for underground mining, some processes in dock labor and steel smelting, and iron founding, "the introduction of women in varying numbers is practically universal."⁴ And even in steel works women were sometimes employed in breaking limestone and loading bricks, though not on the actual smelting of the metal, while in iron foundries negotiations were going on to see where women could be used.

Meanwhile, the decrease in women workers in what, before the war, were distinctively "women's trades," became more marked. For instance, in April, 1917, the number of women was falling off in textiles and the food trades, though these were still above pre-war levels, in dressmaking and domestic service, where the de-

¹ *Labour Gazette*, July, 1916, p. 357.

² Great Britain War Office, *Women's War Work*, pp. 49, 56, 57.

³ Great Britain Ministry of Munitions, *Dilution Bulletin*, April, 1917, pp. 82 and 95.

⁴ Standing Joint Committee of Industrial Women's Organizations, *The Position of Women After the War*, 1916, p. 5.

cline was put at 300,000, and in laundry work for which exact figures were not obtainable.¹

It had become so difficult for the London high class dress-making and millinery shops to secure employes that in the fall of 1916 some of the employers met with representatives of the London County Council and the employment exchanges and planned considerable improvements in working conditions. The changes included a reduction of the seasonality of the trade and a shortening of the working hours. But in July, 1917, their supply of labor was still "insufficient."²

In non-industrial occupations also during the period from April, 1916, to July, 1917, there was a continued increase in the number of women employed and the kinds of work they were doing. Next to "government establishments" the largest percentage of increase (though the absolute numbers are comparatively small) were found in some of these groups. In "banking and finance" the gain over July, 1914, was 570 per cent. in "transport" 422 per cent, and in civil service 150 per cent. The gain in numbers in the whole group, exclusive of agriculture, was 639,000, of which 324,000 were found in "commercial occupations."³

Along with the growth in numbers the kinds of work done by women in these lines continued to extend. On the railroads, to

¹ The following table from the *Labour Gazette*, August, 1917, p. 274, brings out the changes in the employment of women in several of the more important industrial occupations between July, 1914, and January and April, 1917.

INCREASE OR DECREASE IN THE NUMBER OF WOMEN EMPLOYED SINCE JULY, 1914

	January, 1917.	April, 1917.
Metals	267,000	308,000
Chemicals	43,000	51,000
Textiles	23,000	22,000
Clothing	—34,000	—37,000
Foods	26,000	18,000
Paper and Print	—6,000	—7,000
Woods	19,000	24,000
Total	399,000	453,000

² *Labour Gazette*, August, 1917, p. 282.

³ See Appendix D.

the women clerks, car cleaners, and ticket collectors of the first months of war were added shop laborers, engine cleaners, and porters. In several Scottish and a few English and Welsh cities, women became tram drivers as well as conductors. Cities employed not only women street cleaners and a larger number of women clerks and teachers, but women in various capacities in power stations, sewage farms, gas works, and parks, and as scavengers.¹ A few official "policewomen" were appointed, and there were numerous women "patrols" or voluntary police. There were women lamp lighters and women window cleaners, and the errand girl had practically replaced the errand boy.²

While in July, 1917, according to the *Labour Gazette*,³ the number of women employed permanently on the land in Great Britain had increased by 23,000 or 28.7 per cent since July, 1914, the number of casual workers had increased 39,000 or 77 per cent during the same period. The total number of women employed in farm work in July, 1917, may therefore be estimated as 192,000.

A particularly interesting development in women's work during the third year of war was their employment in work for the army behind the lines in France. In July, 1915, a member of the government, in answering an inquiry in the House of Commons as to the number of soldiers detailed for clerical work, remarked that on the continent "obviously neither old civilian clerks nor women clerks would be suitable." But two years later thousands of English women were at work there not only as clerks, telegraphers, and postal employes, but also as army cooks and cleaners, and, according to unofficial statements, as chauffeurs and carpenters and other mechanics.⁴ The women employed in this way were carefully selected and organized under semi-military discipline, as the "Women's Army Auxiliary Corps" (popularly known as the "Waacs"). A newspaper dis-

¹ *Labour Gazette*, October, 1916, p. 357.

² National Union of Women Workers, *Occasional Paper*, August, 1916, p. 32.

³ *The Survey*, November, 1917, p. 395.

⁴ *The Saturday Evening Post*, September 29, 1917.

patch in October, 1917, stated that 10,000 volunteers were needed for this service both in England and overseas before the end of the month and at least 10,000 monthly thereafter.¹ Thirty-eight thousand women were engaged in military nursing in July, 1917.²

As indicated by the variety of occupations, both industrial and non-industrial, in which their employment increased, the substitution of women for men went forward rapidly during the third year of war. The total number of "females substituted for male workers" amounted in July, 1917, to 1,354,000 exclusive of casual farm laborers, or to 1,392,000 if such laborers be included. In "government establishments" the number of women on men's work was 9,120 times as great as the whole number of women employed in July, 1914, in "banking and finance" the number was 555 times as great; in "transport," 437 times, and in "civil service" 152 times as great. About one working woman out of every three was replacing a man in July, 1917, in the occupations covered by the tables of the *Labour Gazette*.

The report of the "Chief Inspector of Factories and Workshops" for 1916 gives an interesting description of the progress of substitution and of the work of women in heavy occupations formerly carried on exclusively by men. The Principal Lady Inspector, Miss Anderson, says, in part:

It appears that the one absolute limit to the replacement of men by women lies in those heavy occupations and processes where adaptation of plant or appliances can not be effected so as to bring them within the compass even of selected women, of physical capacity above the normal. Very surprising, however, is the outcome of careful selection, even in fairly heavy work, in rubber manufacture, paper mills, oil cake and seed crushing mills, shale oil works, shipyards, iron and tube works, chemical works, gas works and stacking of coal, tan yards, coarse ware and

¹ A newspaper dispatch of November 29 announced that a similar uniformed body of women was to be organized in the navy, called the "Woman's Royal Naval Service," and performing shore duties formerly carried on by sailors.

² See Appendix E.

brick making, flour milling and other trades. "If they stick this, they will stick anything," a manager is reported as saying of the grit and pluck of the women in a gas works in the recent severe weather.¹

She adds, however, what may occur to many students of women's work, that: "It is permissible to wonder whether some of the surprise and admiration freely expressed in many quarters over new proofs of women's physical capacity and endurance is not in part attributable to lack of knowledge or appreciation of the very heavy and strenuous nature of much of normal pre-war work for women, domestic and industrial."

Nevertheless, despite these increases, the amount of substitution varied widely between different trades and even between different firms in the same trade, and opportunities for replacement still existed. Often women had been more widely introduced into occupations like railway trucking, for which they did not appear well fitted, than into such work as electroplating, which seemed in every way suitable.

Women's lack of trade training, their inferior strength, the special restrictions of the factory acts, moral objections to having men and women in the same workshop, and the need of increasing sanitary accommodations and providing women supervisors had been from the first alleged as objections to putting women in men's places.² But the strongest obstacles were apparently trade union opposition, frequently expressed in restrictions in trade agreements, and the prejudice of employers. "The progress of substitution probably depends in many cases on the pressure exercised by military tribunals," said the "Principal Lady Inspector of Factories," early in 1917. "Employers will not experiment with women as long as they can get men, though once they do so they are pleased with the result."³

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 5.

² British Association for the Advancement of Science, *Labour, Finance, and the War*, 1916, pp. 83, 84.

³ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 6.

CHAPTER V

Organized Efforts to Recruit Women's Labor

The increase in the number of women workers and in the scope of their work by no means "came of itself." It was the result of a long process of agitation by private individuals, propaganda, organization, and negotiation by the government, and even in the production of munitions, where the need was most acute, of legislation. Besides parliamentary action in the munitions industry, agreements between employers and trade unions, local committees on women's war employment, "Women's County Agricultural Committees," and a "Shops" and a "Clerical Occupations" committee of the central government were the chief agencies promoting a greater utilization of the services of women.

Munitions Work

A prime purpose of the well known munitions acts, which put a new aspect on many of the relations between employers, employees, and the state, was the abrogation of trade union rules restricting the employment of women.

The change thus made compulsory on the industry was known as the "dilution" of skilled labor by less skilled—which, according to official definition, "fundamentally means increased employment of women with a view to releasing men."¹ The "dilution" movement is one of the most far-reaching labor developments of the war, alike in the industrial transformation entailed, in the change in the status of women workers, and in its probable after-war consequences. The events leading up to the passage of the acts, and the subsequent recruiting of women, form a fascinating chapter in English industrial history.

¹Great Britain Ministry of Munitions, *Dilution of Labour Bulletin*, October, 1916, p. 6.

The increasing demand for munitions found workmen in the "engineering" (roughly, the machinists') trade, thoroughly organized, mainly in the Amalgamated Society of Engineers. This was one of the strongest unions in the skilled crafts, having a membership of 174,253 in 1914. The A. S. E., as it is familiarly called, did not admit women, and its rules among other things restricted the kinds of work which could be done by women, unskilled men, and non-unionists, limited the amount of overtime, and the number of machines to be tended by a single worker. In December, 1914, shortage of labor and the expanding demand caused the employers' federation in the engineering trades to ask the unions to give up these rules during the war period, but the negotiations which followed were fruitless. About this time the "industrial truce" was broken by the great strike of engineers on the Clyde, when their demand for a raise of pay at the expiration of their wage agreement was refused.

Labor unrest, charges that employes lost much time from work—in many cases, it was said, because of drink—and difficulties in getting a sufficient supply of munitions, caused the government to appoint, on February 15, 1915, a "Committee on Production in Engineering and Shipbuilding" "to inquire and report . . . as to the best steps to be taken to ensure that the productive power of the employes in engineering and shipbuilding establishments working for government purposes shall be available so as to meet the needs of the nation in the present emergency."

The second report of the committee, issued February 20, on "Shells and Fuses," recommended as methods of increasing production, first, that the workers should cease to restrict earnings and output, in return for which no attempts to cut piece rates should be allowed, and second, that "there should be an extension of the practice of employing female labor on this work under suitable and proper conditions." The third report, issued March 20, made an analogous recommendation that, with proper safeguards to protect union interests, a greater use should be made of unskilled and semi-skilled labor during the war.

The "Treasury Agreement"

The next step toward "dilution" was the calling of a conference of representatives of the chief unions doing war work, which met with the Chancellor of the Exchequer, Lloyd George, and the president of the Board of Trade on March 17, 1915. No women's labor organizations were represented. At the conference Lloyd George showed that the need for munitions was greater than had in any way been anticipated, and begged the unions to give up all restrictions on output and to submit all disputes to arbitration during the war period. In return, the government would take control of the establishments affected and would limit their profits. A committee of trade unionists, also having no women members, was then appointed to draw up proposals embodying these principles. Their work is embodied in the so called "Treasury Agreement," which was accepted on March 19, 1915, by all the union representatives present, except those of the Amalgamated Society of Engineers.

The clauses which permitted the increased employment of women included the following provisions: Each union was recommended "to take into favorable consideration such changes in working conditions or trade customs as may be necessary with a view to accelerating the output of war munitions or equipments," provided the government imposed on contractors for munitions, war equipment, or "other work required for the satisfactory completion of the war," certain conditions intended to safeguard the unions and their wage rates. All changes were to be only for the war period, and should "not prejudice the position of the workpeople . . . or of their trade unions in regard to resuming pre-war rules or customs after the war." After the war also preference of employment should be given workers who had enlisted or who were employed at the time the agreement was made. When semi-skilled men were introduced on work formerly done by skilled men, "the rates paid shall be the usual rates of the district for that class of work." Moreover, "the relaxation of existing demarcation restrictions or ad-

mission of semi-skilled or female labor shall not affect adversely the rates customarily paid for the job." A record of all changes was required to be kept, open to government inspection, and "due notice" of intended changes was to be given "where practicable," with opportunity for consultation by the workers or their representatives, if desired.

However, an agreement of this kind to which the Amalgamated Society of Engineers had refused assent was not a little like the play of Hamlet with Hamlet left out. Further negotiations were immediately held with the A. S. E., and on March 25, when certain additional safeguards had been added, they likewise accepted the agreement. The additions pledged the government to limit profits in the shops where union rules had been given up "with a view to securing that benefit resulting . . . shall accrue to the State," and to use its influence in the restoration of trade union conditions after the war. The restrictions were to be removed solely on work "for war purposes," and the workers might demand a certificate to that effect from the government department concerned. Most important of these additions in view of the sweeping changes taking place in the engineering industry was the clause to the effect that where new inventions were introduced during the war, the class of workmen to be employed on them after the war "should be determined according to the practice prevailing before the war in the case of the class of work most nearly analogous."

In accordance with the terms of the agreement an advisory committee of labor representatives was appointed, to help in carrying out its recommendations, and several local "munitions committees" representing employers, employes, and the public were formed for the same purpose.

But it is claimed of the "Treasury Agreement" that "except in so far as it prepared the mind of the worker for later compulsion, the agreement completely failed to achieve its purpose. The main cause of this failure was a feeling on the part of the men that they were being called upon to surrender what they

regarded as their heritage, without the employers being called upon to make any corresponding sacrifice."¹

At any rate, the agreement was tried but little more than three months before it was superseded by legislation. A coalition ministry which the Labour Party entered was formed in May. The shortage of munitions, which hindered the spring advance and which had been brought forcibly to general attention through the loss of life in the battle of Neuve Chapelle, was one of the chief causes for the fall of the Liberal Party. In June a "Ministry of Munitions" was created, and Lloyd George was made minister.

The Munitions Acts

The first munitions of war act was passed July 2, 1915.² Its purpose as expressed in its title was "to make provision for furthering the efficient manufacture, transport and supply of munitions for the present war." It was drafted with the active co-operation of the Labour Advisory Committee, and was approved before passage by the majority of a conference of representatives of unions in the munitions industry. The radicals claim that the bill was passed primarily, not so much to give a legal sanction to "dilution" as to prohibit strikes and to minimize the leaving of munitions work by individuals.³

As amended in January, 1916, the possible scope of the act was wide. It might cover, to name the principal items, any articles "intended or adapted for use in war," any metals, machines, tools, or materials required for their manufacture or repair, any construction or repair of buildings for military purposes, and even the erection of houses intended for munition workers, and the supply of heat, light, water, power and tramway facilities for munitions work. A commentator has said that it

¹ United States Bureau of Labor Statistics, *Monthly Review*, June, 1917, p. 815.

² 5 and 6 Geo. 5, ch. 54.

³ *Labour Year Book*, 1916, p. 63.

included practically "all work intended to aid the warlike operations in any way."¹

Whatever its primary purpose, the act contained important sections relating to the abandonment of union rules and the dilution of labor. The Minister of Munitions might declare any establishment in which munitions work was carried on, including government plants, a "controlled establishment." In such an establishment all trade union restrictions were to be given up, and on the other hand the employer's profits were limited to a maximum of one-fifth more than the average for the two years before the war. In February, 1917, there were reported to be 4,285 "controlled" establishments and 103 government munition factories. The rules and safeguards relating to the abandonment of trade union restrictions were, word for word, those of the "Treasury Agreement."² The maximum penalty for violating the regulations was, for the workman £3 (\$14.40), and for the employer £50 (about \$240). The rest of the act was for the war period only, but the "dilution" clauses held for a year after the end of the war, for the purpose, obviously, of tiding over the demobilization period and making effective the government pledge of a restoration of trade union rules and the dismissal of the women and unskilled men. But it will be noted that there was no reference to the provisions of the agreement with the Amalgamated Society of Engineers supplementary to the "Treasury Agreement." In this omission it would seem that the unions had seriously weakened their weapons for ensuring restoration of their rules and customs after the war. The importance of the "new machines" clause has already been discussed, and the specific pledge of the government to aid in restoration might also have been of value.

Organization for "Dilution" under the Munitions Acts

The Ministry of Munitions immediately began, during the summer of 1915, to develop an elaborate organization for in-

¹Thomas A. Fyfe, *Employers and Workmen under the Munitions of War Acts, 1915 and 1916*, p. 22.

² Found in "Schedule II," supplementary to the first munitions act.

creasing production and for "dilution" and, as has been noted, by the fall of 1915 the great rush of women into munitions work was under way. Besides numerous departments dealing with the various branches of production from the technical side, the Ministry organized a large labor department. One section, called the "Labour Regulation Department," dealt with working conditions and trade disputes. The other section was the "Labour Supply Department," which had charge of "dilution" and the supply of labor. In organizing the production of munitions the country was divided into forty-three districts, and in August, 1915, the Ministry of Munitions appointed three commissioners in each district to promote "dilution."

As a further aid the "National Advisory Committee," which had helped draft the "Treasury Agreement" and the munitions act, was enlarged to include additional labor members, representatives of the Ministry of Munitions, and others, and became the "Central Labour Supply Committee," whose purpose was "to advise and assist" the Ministry of Munitions regarding the "most productive use of all available labor supplies."¹ "Local Advisory Boards" of labor representatives were also appointed to help the central committee.

However, the officials on whom fell the brunt of the work of increasing "dilution" in individual shops were the "dilution officers" of the Labour Supply Department. These officials went from establishment to establishment, finding out the employer's needs in the way of labor and working out, with his cooperation if possible, plans by which the use of unskilled labor, especially woman labor, could be extended. The "dilution officer" reported to the central authorities and was advised to submit all plans to them for approval. In case complaints were made that women were not doing satisfactory work, where the use of women was not progressing as rapidly as desirable; or if there was difficulty in finding suitable women workers a woman dilution officer might be sent to straighten out the difficulty.² The

¹ *Labour Year Book*, 1916, p. 70.

² Great Britain Ministry of Munitions, *Dilution of Labour Bulletins*, January, 1917, p. 47, and February, 1917, p. 55.

women officers were also sent to investigate where women were being used for the first time "in order to ensure a good beginning," and in some cases they advised on the suitability of work before women were tried.

While the government gained the legal power to force dilution on munitions work through the first munitions act, "in practice it has been found necessary, almost without exception, to proceed by way of negotiation."¹ The *London Times* complained, in the spring of 1917, that after "the suspension during the war of all restrictions on output having been first agreed with the trade unions and then passed into law, the Ministry, instead of securing that these restrictions were in fact removed, proceeded to debate them 'from town to town, from lodge to lodge, and from works to works.'"² But those administering the act gave instances in which the men refused to obey compulsory awards suspending trade union rules made without their consent, and believed that "it is impossible to set these practices aside except on the basis of their voluntary suspension, first by the representatives of all labor and then by the actual workers themselves."¹

At all events, the instructions sent by the Ministry of Munitions in November, 1915, to employers in controlled establishments, outlining the steps to be taken in effecting dilution, stressed the importance of consulting the workers, and, if possible, of obtaining their cooperation. The workmen should be asked to form a "deputation" which might include their union officials if desired. Any proposed change should be explained to this body and its consent secured, if possible. Only in the event that an agreement could not be reached either with the deputation or with the local trade union officials, should the change be put into effect and the dispute settled under the compulsory arbitration clauses of the munitions act. In addition "before female labor

¹ United States Bureau of Labor Statistics, *Monthly Review*, June, 1917, p. 825.

² *London Times*, weekly edition, May 4, 1917.

is hereafter employed in the highly skilled branches of the engineering trade the proposal of the employer in question should be submitted to the Ministry for approval."

Propaganda by the Ministry of Munitions

Besides its legal powers, its "dilution officers," and its various advisory boards, the Ministry of Munitions carried on by a number of devices what was to all intents and purposes an advertising campaign to secure the utmost possible extension of female labor in diluting male labor. Over and above its numerous official instructions, the Ministry has published not a little propaganda material. In February, 1916, a large illustrated booklet was issued, "Notes on the Employment of Women on Munitions of War, with an Appendix on the Training of Munition Workers." It contained photographs and descriptions of processes on which women were then employed. Its purpose, as given in a preface by Lloyd George himself, was as follows:

This book has been prepared by an expert engineer, who at my request visited workshops in various parts of the country where the dilution of skilled labor is in actual operation. It illustrates some of the operations which women, with the loyal cooperation and splendid assistance of the workmen concerned, are performing in engineering shops in many parts of the kingdom.

The photographic records and the written descriptions of what is actually being done by women in munition factories, on processes hitherto performed solely by skilled men, will, I believe, act as an incentive and a guide in many factories where employers and employed have been skeptical as to the possibilities of the policy of dilution.

Being convinced that until that policy is boldly adopted throughout the country we can not provide our armies with such an adequate supply of munitions as will enable them to bring this war to an early and successful conclusion, I very earnestly commend this book to the most serious consideration of employers and employees.

January 28, 1916.

D. LLOYD GEORGE.¹

¹ A comment on the publication from the point of view of the woman trade unionist may be of interest. It is to be found in *The Woman Worker*,

Beginning with October, 1916, dilution officers were aided by an illustrated monthly, *Dilution Bulletin*. Aside from instructions to the "D. O.'s" as to reports and procedure, the periodical was practically given over to descriptions of the work women were doing, and exhortations to the dilution officers to promote the use of still more women on munitions work. "Process Sheets," containing details of operations successfully carried on by women, were also issued. A special collection of photographs of women workers was likewise available for the use of dilution officers, and was said to have been effective in convincing skeptical employers that they could use women. Expert women "demonstrator-operatives" might be secured by the dilution officers either to act as pacemakers in speeding up production or to demonstrate that a particular job lay within women's powers. In the spring of 1917, the Ministry developed still another method of propaganda, namely, an exhibition of women's work which was shown in different industrial centers.

The results of all this activity in the rising numbers of women munition workers have already been pointed out. The gain during the war of 308,000 in the metal trades, over three times the pre-war level, the introduction of 25,000 women into Woolwich

the organ of the National Federation of Women Workers, for March, 1916,
and is called "Lloyd George's Picture Book."

Our women munition makers ought to be proud: "Mr. Lloyd George has brought out a picture book about them!" It is a large, handsome book, costing 1s., entirely full of pictures of women workers and all the processes they can do. According to Mr. Lloyd George, never were there such useful workers as women munition workers. He says they can do brazing and soldering, they can make 8-in. H. E. shells, they can drill 8-pounder shells, and some of them are very successful in making high explosive shells.

Well, it is very nice to be praised by so important a man, and it is even nicer that he should take the trouble to have a book filled with pictures of the girls at work. We women, however, have always had in our minds a lurking suspicion that we were, after all, as clever as the men, and it is pleasant enough to hear Mr. Lloyd George say so. But there is a conclusion to be drawn from all this. If girls are as important and as clever as the men, then they are as valuable to the employer. If this is so it becomes a duty of the girls to see now and always, whether on government work or not, that they receive the same pay as the men. Otherwise, all their cleverness and their intelligence go to helping the employer and bringing down the wages of their husbands, fathers, and brothers.

Arsenal, and the statement by representatives of the Ministry of Munitions in November, 1917, that 80 per cent of all munitions work was then performed by female labor, have been cited.

Yet, as late as October, 1916, the Ministry of Munitions stated that the "average of dilution remains very low." Beginning March 31, 1917, all contracts for shells were let on the conditions that on all shells from two and three-quarters to four and one-half inches, 80 per cent of the employes must be women, and that on all larger shells the instructions of the Labour Supply Department as to the proportion of women, semi-skilled and unskilled males must be obeyed. Nevertheless, in March, 1917, it could be said that "we have by no means reached the limits of the possibilities of employing women in connection with war work,"¹ and in May the *Times* complained that only a fraction of the replacement which had been proved possible had actually been made.²

In the summer of 1917 pressure was still being brought to bear for a larger use of women, and while in America in November, Mr. G. H. Baillie, the "Chief Technical Dilution Officer" of the Labour Supply Department, said that "dilution" was still progressing on a large scale.

"Dilution" in Other Industries by Trade Union Agreement

In a number of other trades besides engineering where union rules hindered the replacement of men by women, agreements were reached between employers and employes which permitted substitution during the war period. The agreements were not the subject of legislation, but were, in most cases, the result of trade conferences called jointly by the Board of Trade and the Home Office at the request of the Army Council. The purpose was to reorganize each industry so as to release as many men as possible for the army.

Most of the agreements were made during 1915. Among the

¹ Great Britain Ministry of Munitions, *Dilution of Labour Bulletin*, April, 1917, p. 82.

² London *Times*, weekly edition, May 4, 1917.

industries covered in that year were cotton, hosiery, leather, woolen and worsted, silk and felt hats, printing, bleaching and dyeing, woodworking, biscuit, pastry baking, wholesale clothing, boot making, and earthenware and china. In 1916, similar agreements were concluded in lace making, hosiery finishing, printing, silver-plate and cutlery, and brush making.

The trade unions were, on the whole, as unfavorable to the introduction of women in other new lines as they were in munitions and yielded only reluctantly, under pressure of the necessities of war. They frequently alleged that a given kind of work was unsuitable for women on moral or physical grounds. But their real objection was probably the fear either that women would lower the men's wage rates directly, or that the existence of a reserve of experienced female labor would endanger the men's position in any post-war industrial depression.

The union's point of view is revealed in the conditions which they required before they would sign substitution agreements. "The operatives," said the factory inspectors, "not unnaturally asked for guarantees that those who left to join the Forces should have their places kept open for them, that suspension of rules should be regarded as a war emergency only, that there should be a return to former conditions at the end of the war, and that there should be a fair settlement of the wage question affecting the employment of women or other labor called in to take the place of the men."¹

The conditions of the agreement made in June, 1915, between unions and operators in the leather trade, whose needs had been greatly increased by the demand for military equipment, were typical of these settlements, and of the precautions taken to safeguard the regular employes. Women were to be allowed on "men's work" during the war period when men could not be obtained. Their work was, however, limited to operations "they are physically fit to perform," they were to be paid men's rates, and the local trade union officials were to be consulted in each

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 4.

case before substitution was made. When men and women were employed in the same department, it was recommended that they be separated, as far as possible.¹

Other Measures to Increase Substitution—Industrial

The activities of the government to enlarge the scope of women's work in cases where no trade union rules stood in the way form still another interesting series of propaganda efforts.

The first such attempt was a scheme of national voluntary registration for women, begun in March, 1915. Stating that its object was to find out what reserve of woman labor could be made available if required, the government invited all women who were "prepared, if needed, to accept paid work of any kind—industrial, agricultural, clerical, etc.,—to enter themselves upon the register of women for war service at the labor exchanges."

The appeal caused many protests among representatives of labor, first because there was still believed to be much unemployment among women wage earners, and second, because of the failure to propose any safeguards to ensure good working conditions or "equal pay for equal work." It was charged that the farmers' union was behind the plan and that it was trying to get cheap woman labor instead of raising the wages of the men.

The War Emergency Workers' National Committee immediately passed a resolution pointing out "that there are still 60,000 men and boys and 40,000 women and girls on the live register of the labor exchanges. . . . The committee is strongly of opinion that in drafting women into any industries care must be taken to prevent the stereotyping of bad conditions and low wages, or to endanger standard conditions where they obtain; that this should be secured by a tribunal representative of the organized wage earners—men and women; and that further efforts should be made to find situations for those persons now on the register before taking steps to bring in fresh supplies of female labor."

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 151.

The Woman's Freedom League, a suffrage society, issued a strong protest along similar lines, with the emphasis on "equal pay for equal work."

The Women's Freedom League are glad to note the tardy recognition by the government of the value of women's work brought before the country in their schemes of war service for women. We demand from the government, however, certain guarantees.

Firstly, that no trained woman employed in men's work be given less pay than that given to men.

Secondly, that some consideration be given when the war is over to the women who during the war have carried on this necessary work.

Thirdly, that in case of training being required proper maintenance be given to the woman or girl while that training is going on.

Recognizing that the government's scheme offers a splendid opportunity for raising the status of women in industry, we urge that every woman should now resolutely refuse to undertake any branch of work except for equal wages with men. By accepting less than this women would be showing themselves disloyal to one another, and to the men who are serving their country in the field. These men should certainly be safeguarded on their return from any undercutting by women.

The "War Register" having brought the question of increased employment of women to the front, on April 17 the workers' national committee called a national conference of trade unions with women members and other women's labor organizations at which the chief resolution demanded "that as it is imperative in the interests of the highest patriotism that no emergency action be allowed unnecessarily to depress the standard of living of the workers or the standard of working conditions, adequate safeguards must be laid down for any necessary transference or substitution of labor." The safeguards outlined included membership in the appropriate trade union as a prerequisite for war service, "equal pay for equal work," no war employment at less than a living wage, maintenance with training where necessary,

preference being given in this to unemployed women who were normally wage earners, and reinstatement of the displaced men at the end of the war, with, at the same time, "guaranteed employment" to the discharged women.

The "War Register" did not, after all, prove to be of much importance in the extension of women's employment. Though 33,000 women registered within a fortnight, and 110,714 during the whole period of registration, up to the middle of September, jobs were found for only 5,511 of them,¹ because, it was said, they lacked the necessary skill to fill the vacancies for which they were wanted.²

Much more effective than the war register was the work of the interdepartmental committee of the Home Office and the Board of Trade appointed in November, 1915, "to consider the question of utilizing to the full the reserve of women's labor."³ The committee worked principally through local committees, which were at work in thirty-seven towns in November, 1916. The members of these committees were "chosen for their interest in women's employment," and included employers, employes, and representatives of such societies as the Young Women's Christian Association and the Women's Cooperative Guild. An officer of the local employment exchange acted as secretary of each such committee, and representatives of the Home Office and the Board of Trade attended its meetings "in a consultative capacity."

The work of the committees varied according to local needs, and included efforts to keep up the supply of women in their normal occupations as well as to secure substitutes for men's work. In several textile towns a shortage of workers in the mills was relieved by securing the services of women formerly occupied, who were now living at home. In one town enough women were obtained by a house to house canvass to restart 400

¹ *Labour Year Book*, 1916, p. 81.

² British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 72.

³ *Labour Gazette*, November, 1916, p. 403.

looms. An appeal for women workers placed in the Glasgow trams brought good results. In places where there were many unemployed or unoccupied women the local committee tried to persuade some of them to migrate to places needing additional labor. In Cambridge, for instance, several meetings were held for this purpose and a loan fund for traveling expenses was raised.

Some of the most important work of the local committees was done in munition centers where it was necessary to bring in women workers. In such places, members of the committee met the strangers on arrival, took them to suitable lodgings, and "initiated schemes for their welfare outside the factory." In Gloucester, where the committee investigated lodgings for 2,000 women, it was entrusted by the Ministry of Munitions with establishing a temporary hostel for women for whom lodgings could not be found.

The committees were active in various other forms of "welfare work." They arranged a conference of "welfare workers," and fostered the introduction of factory "canteens." The Woolwich committee started a club and recreation ground for the women employes of the great arsenal, and a nursery for the children of employed mothers.

Several towns reported "active efforts," including conferences with employers, on the substitution of women for men. Interesting work of this kind was done in Bristol where a number of unemployed women were persuaded to train for "men's work" in the shoe trade.

The next effort by the two departments was a joint appeal to employers to keep up production by taking on women. Noting that there were already complaints of a labor shortage and of idle plants, the appeal continued:

There is one source, and one only, from which the shortage can be made good—that is the great body of women who are at present unoccupied or engaged only in work not of an essential character. Many of these women have worked in factories and have already had an industrial

training—they form an asset of immense importance to the country and every effort must be made to induce those who are able to come to the assistance of the country in this crisis. Previous training, however, is not essential; since the outbreak of war women have given ample proof of their ability to fill up the gaps in the ranks of industry and to undertake work hitherto regarded as men's.¹

Concerted action by employers was necessary to reorganize their work so as to use the maximum number of women and to let the local employment exchange know their exact requirements for women. The Home Office, the Board of Trade, and the factory inspectors would give all the help in their power in making any such rearrangements. "We are confident that the women of the country will respond to any call that may be made, but the first step rests with the employers—to reorganize their work and to give the call."

By July, 1916, the Board of Trade had established "an information bureau for the collection and circulation of information as to the replacement of male by female labor," and soon after, again cooperating with the Home Office, it issued a series of "Pamphlets on the Substitution of Women for Men in Industry," describing branches of work which were considered suitable by the factory inspectors and in which women were successfully employed. The twenty-seven little pamphlets covered trades as far out of women's ordinary field as brick making, "oil seed and feeding cake," leather tanning and currying, and flour, as well as the more usual clothing and cotton trades. Under each trade were enumerated the processes on which women had been substituted for men, opportunities for training, and any relaxation of the factory acts, or of trade union rules which favored their employment. The results of this propaganda by the Home Office and the Board of Trade have nowhere been exactly estimated, but whether due to it, or to the necessities of the labor situation, or to both, it was soon followed by a marked increase in the number of women doing men's work.

¹ *Labour Gazette*, March, 1916, p. 83.

In September, 1916, the War Office took a hand in the propaganda. Its contribution was a large illustrated pamphlet listing occupations on which women were successfully employed. The purpose of the book was primarily to guide the administrators of the conscription act and to reduce the number of exemptions from military service on the grounds of industrial indispensability. Incidentally, it was "offered as a tribute to [women's] effective contribution to the Empire in its hour of need." It was much criticised because of the lack of discrimination shown in recommending certain kinds of work. It would seem that the heavy lifting involved or the disagreeable nature of the surroundings made such work as loading coal, planks and miscellaneous freight, moving coke and beer barrels, handling heavy steel bars, stoking, and the removal of leather from dipping beds entirely unsuitable for women. But much of the work pictured, such as reaping, the care of horses, driving a steam roller, and bakery work, though far removed from the usual lines of "women's work," did not seem to be objectionable. Still other occupations, where little strength and considerable skill were required, for instance, piano finishing and tuning, making ammunition boxes, modeling artificial teeth, repairing railway carriage seats, and the preparation of soldiers' dinners, would seem positively desirable additions to the field of women's work.

The most ambitious—and probably the least effective—of the government's attempts to keep up the essential industries of the country under war conditions was the "National Service Department," created early in 1917. It commandeered a hotel for its headquarters, and assembled a large staff. Through this department it was planned to secure the enrollment of all persons of working age, who were then to be transferred to "trades of national importance," if not already so employed. Volunteers to go wherever they were assigned were first called for, and as the response was only slight, conferences with employers and employes were begun to find out what men various firms could spare, and to arrange for their transference to essential war work by the "Substitution Officers" of the Department. The

duplication of the work of the employment exchanges is evident. Enrollment and transference were to be purely voluntary, though among the labor groups there were murmurings that the scheme was but a prelude to industrial conscription. But in April the plan was called a "fiasco," and it was alleged that only a few hundred placements had actually been made.¹ It was later characterized as "one of the prize futilities of the whole war." "National Service . . . is dead. It knows that it is dead. The government knows that it is dead. And all other people know that its corpse has become offensive . . . What National Service wants is not a hotel, but a mortuary chamber and a post-mortem."² Just before this time a "Woman's Section" had been set up by the "Director of National Service" in charge of two women well known for their interest in the problems of women's work, Mrs. A. J. Tennant and Miss Violet Markham, of whom it was said that they had been "asked to bring order out of chaos at the eleventh hour."³

The principal achievement of the section up to November, 1917, seems to be the formation of the special corps of women with its own women officers and under semi-military discipline for work behind the lines in France. As has been previously described, several thousand women work there as postal employes, clerks, cooks, cleaners, chauffeurs, and even as other sorts of mechanics. Earlier efforts of the "Woman's Section" for another registration of women for war work and for a uniformed "army" of women for agricultural work seem to have been of but little value.

Other Measures to Increase Substitution—Trade and Commerce

The chief governmental reports covering non-industrial lines of work are those of the "Shops Committee" and the "Clerical and Commercial Employments Committee," both formed in the spring and reporting in the fall of 1915. The former stated that

¹ *The New Statesman*, April 7, 1917, p. 4.

² *Ibid.*, July 21, 1917, p. 372.

³ *The Woman Worker*, April, 1917.

it was organized to see how Lord Kitchener's demand for "more men, and yet more men" could be met by releasing men employed in stores. In the judgment of the committee very few men needed to be retained, except in the heavier branches of the wholesale trade. The committee distributed circulars to shopkeepers throughout the country asking how many men could be released for the army and calling attention to the emergency. A large meeting of representatives of the unions and the employers' associations was held in London and fifty-five local meetings for the trade through the country, at which resolutions were passed pledging those present "to do everything possible" to substitute women for men. "What we feel we have done," said the committee, in summing up its work, "is to bring home to shopkeepers in England and Wales the necessity (and the possibility) of rearranging their business so as to release more men for service with the Colours."

The other committee, on "Clerical and Commercial Employments," was formed to work out a plan for "an adequate supply of competent substitutes" for the "very large number of men of military age" still found in commercial and clerical work. The committee estimated that 150,000 substitutes must be secured, and that they must be drawn mainly from the ranks of unoccupied women without previous clerical experience. It recommended the securing of such women from among friends and relatives of the present staffs, the starting of one and two months' emergency training courses by the education authorities, and the placement of the trained women through cooperation with the local employment exchanges. The committee went on record in favor of the reinstatement of the enlisted men after the war, and meanwhile "equal pay" for the women substitutes. It brought the need of substitution before the various commercial and professional associations whose members made use of clerical help.

Campaign for Substitution in Agriculture

Propaganda efforts in agriculture were numerous, but judging from the comparatively small increase in the number of women

workers, they were relatively less successful than those in industry and trade. Prejudice on the part of both country women and farmers was held partly responsible, but the chief cause seems to have been the failure to raise wages materially or to improve living conditions. Organization along similar lines to that developed in industry by the Board of Trade and the Home Office was worked out by the Board of Trade and the Board of Agriculture in the spring of 1916. "Women's county agricultural committees" were formed in close connection with the "war agricultural committees" which had been organized in each county. The committees were made up of "district representatives," who, in turn, worked through local committees, or "village registrars" or both. In the late autumn of 1916 there were sixty-three county committees, 1,060 "district representatives" and over 4,000 "village registrars." The Board of Agriculture formed a panel of speakers for meetings, and the Board of Trade appointed women organizers for various parts of the country. Local meetings to rouse enthusiasm were followed by a house-to-house canvass in which women were urged for patriotic motives to enroll for whole or part-time work. The village registrar then arranged for employment of the women listed either through the local employment exchange or as they heard of vacancies. The women were told that "every woman who helps in agriculture during the war is as truly serving her country as the man who is fighting in the trenches or on the sea." Each registrant was entitled to a certificate, and after thirty days' service might wear a green baize armlet marked with a scarlet crown.

During the season of 1916 it was estimated that 140,000 women registered. Seventy-two thousand certificates and 62,000 armlets were issued,¹ although many of the regular women workers on the land refused to register for fear of becoming in some way liable to compulsory service. Women registrants were said to be found in almost every kind of farm work, even to ploughing, but were naturally more often successful in such

¹ *Labour Gazette*, February, 1916, p. 43.

lighter forms as weeding, fruit and hop picking, the care of poultry, dairy work, and gardening. They were considered especially good in the care of all kinds of animals.

The elaborate plans of the government and the low wages paid were commented on in characteristic style by *The Woman Worker*.¹

WOMEN ON THE LAND

It is announced in the papers that the government have decided to start a recruiting campaign for women to work on the land. Four hundred thousand are wanted; and they are to be registered and to be given an armlet. Now, work on the land is useful work, and much of it is suitable to women; but there are points about this scheme which we should do well to look at. It is said that a representative of the Board of Trade at a meeting at Scarborough, said that the wages would be from 12s. to 1 lb. Twelve shillings is not a proper living wage for a woman; and our masters seem to know this. The *Daily News*, in explaining the government scheme, says, "It is frankly admitted that much of the most necessary work is hard and unpleasant, and by no means extravagantly paid. *That is why the appeal is made exclusively to the patriotism of the women. There is no question (as in the army itself) of any really adequate reward.*" Well, why not? The farmers are doing very well. The price of corn is higher than has ever been known before. Why should women be deprived of "any really adequate reward"?

Why should women assist in keeping down the miserably low wages of agricultural laborers? If there was "no question, as in the army itself," of any really adequate profits, then there might be something to be said for the government. As it is, no armlets and no "patriotism" ought to make women work at less than a living wage.

In January, 1917, the Board of Agriculture further developed its organization by starting a "Women's Labour Department." Organizing secretaries were placed in the counties, grants were made to certain voluntary organizations, and sixteen traveling

¹ *The Woman Worker*, March, 1916, p. 3.

inspectors were sent out to advise on grants, inspect living conditions, and so on. Plans were made to mobilize still larger numbers of women for the season of 1917, but complete reports of what was accomplished were not available in November of that year.

Another minor but interesting development of 1916 was that of organized gangs of women farm workers under a leader. Several of these were successful in doing piece-work jobs for different farms in rotation. Others cultivated unused allotments and waste lands. The principal women's colleges provided 2,890 "vacation land workers" in gangs for fruit picking and the like. Two successful bracken-cutting camps were also maintained at which women worked for eight weeks under semi-military discipline.

The only English organization dealing with agricultural work by women prior to the war was the "Women's Farm and Garden Union," which promoted the training of educated women for gardening. In February, 1916, this body secured land for a training school from the Board of Agriculture, and formed the "Women's National Land Service Corps," which was joined by about 2,000 women in the course of a year or more. Members received six weeks' training and were then sent out to the farms, preferably in groups of two or three who could live in a cottage together, "perhaps with a friend to do the cooking."¹ Others lodged in the villages or with their employers. The members of the Corps were said to be "educated girls who had gone into the work mostly from patriotic motives." Girls entirely dependent on their earnings were not encouraged to join, "because of the low rate of pay." The Corps refused to send out workers, it should be noted, unless the pay covered living expenses, unless, considering the women's ability and experience, it was equal to men's rates, or if their workers would undercut or supplant local women. The Corps believed that it had accomplished more than its numbers would indicate, in that its carefully chosen members had often convinced doubtful farmers that women could do more

¹ Boston *Christian Science Monitor*, May 14, 1917.

agricultural work, and that several workers had organized the village women into whole or part-time gangs.

In the spring of 1917, the National Service Department planned to use the Corps as the nucleus for a "Women's Land Army." Women were to enlist for farm work, and, if found suitable, were to be given four weeks' training with pay, and railway fare to their places of employment. When once at work they were not to be allowed to leave except with permission of the "district representative." But, as has been previously stated, the scheme did not prove effective.

Summary

In trying to sum up from an American point of view the value of the different organized attempts to extend the employment of women in England, it is well to note that what was probably their most important and certainly their most difficult problem, namely, the removal of trade union restrictions, will not be encountered in the United States in as definite a way. American labor organizations have not as generally adopted restrictive policies, and not as many trades are strongly organized. Accordingly perhaps the most valuable conclusions America can draw from the situation is the somewhat general one of the wisdom of securing the cooperation of labor in making industrial changes by which it is vitally affected. In industry a system of local representative committees under central official control brought much better results than in agriculture—a fact which points to satisfactory wages and working conditions as an essential addition to propaganda for more women workers. And, naturally enough, such methods as the use of photographs, personal visits by persons familiar with local needs, and the trial of a few expert women workers, all proved effective when general printed appeals had but slight effect.

CHAPTER VI

Source of Additional Women Workers

The question naturally arises, where did the increased number of women workers come from? Who are the thousands of munition workers, the girls undertaking men's jobs, and all the army of a million women who were not at work in July, 1914?

Transfers from Non-essential Industries

The increase during the first months of war in the industries equipping the troops was met for the most part by a transference of workers from slack to busy lines. "So great has been the passing from industry to industry," said the factory inspectors,¹ "that at the beginning of the New Year it seemed almost as if women and girls had gone through a process of 'General Post.'" For instance, makers of high class jewelry in Birmingham transferred to light metal work for the army. Silk and linen weavers went into woolen mills and dressmakers in the west Midlands were taken on in light leather work. In other cases slack industries took up government work. The activity of the Central Committee on Women's Employment in securing contracts for uniforms for idle dressmaking establishments has already been mentioned. The Scottish fish workers were relieved by knitting orders. Certain carpet mills took up the weaving of army blankets, corset makers were set to making knapsacks, girl workers on fishing tackle were used in the manufacture of hosiery machine needles, previously imported from Germany, and an effort was made to provide the manufacture of tape and braid for uniforms for unemployed lace makers in the Midlands. Army shirts were made by many of the Irish collar factories. In retail trade also there was often a transference from slack to busy shops, as

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 33.

from dressmaking and millinery to the grocery trade. Middle-aged professional women whose ordinary occupations were unfavorably affected by the war frequently took the positions in banks, insurance offices, and other business offices which had for the first time been opened to women. Yet in the two trades which suffered most severely from unemployment, namely, cotton textiles and dressmaking, there was a much "less general movement of the workers to find a livelihood in other directions." This was considered due in the one case to "relatively high wages and specialized factory skill," in the other to "deep-rooted social traditions and special craft skill."

Very early in the war, also, married women who had worked before marriage returned to industry. A large proportion of the expanding needs of the woolen trades was filled in that way. In "drapery"—that is to say, "dry goods"—shops, many of these "dug-out" married women also appeared. Municipalities, when substituting women for men on tram-cars and in other services, frequently gave preference to the wives of men who had enlisted. Soldiers' wives likewise entered munitions work in large numbers. While probably the reason for their reentering work was largely economic—rising food prices and "separation allowances" insufficient to maintain a skilled worker's standard of living, particularly if the family was large—yet their choice of occupations appears to have been at least partly dictated by patriotic motives.

As the war went on, the transference of women from "normal" women's occupations, such as domestic service, dressmaking, textiles, the clothing trades, and laundry work to the more highly paid lines, especially munitions work, became more and more noticeable. The actual decline in numbers in these occupations has previously been described.¹ In addition to the decreases in these trades, a considerable change in personnel was observed, involving "the loss of skilled women and the consequent deterioration of the quality of labor."² For example,

¹ See pp. 36, 39.

² British Association for the Advancement of Science, *Labour, Finance, and the War*, p. 71.

skilled women left laundry work, and their places were filled by charwomen, or young girls fresh from school. Not infrequently the skilled women went to almost unskilled work, as from textiles to munitions.

On the other hand, war conditions have occasionally kept women at home who were previously employed. In districts where large numbers of soldiers were billeted women were kept busy at home attending to their needs. Especially in colliery districts where married women were thrown out of work at the beginning of the war the rise in men's wages caused them to become indifferent to obtaining new positions. In some cases, notably in the Dundee jute mills, separation allowances placed the wives of casual workers who had enlisted in a state of comparative prosperity, and they ceased to go out to work. But on the whole the war doubtlessly increased the employment of married women.

In spite of impressions to the contrary, the proportion of previously unoccupied upper and middle class women entering "war work" was by no means large. Some young girls from school who would not normally have gone to work and some older women who had never worked before entered clerical employment. A limited number of well-to-do women took up such temporary farm work as fruit picking from patriotic motives. Many of the women working behind the lines in France and as military nurses were from the "upper classes." And an appreciable number of munition workers were drawn from the ranks of educated women. One such worker estimated that in the large establishment where she was employed, about nine out of 100 women belonged to that class.¹ The "week-end munition relief workers," or "W. M. R. W.," who worked Sundays in order to give the regular staff a rest day, were rumored to include among their members "dukes' daughters and generals' ladies, artists and authors, students and teachers, ministers' and lawyers' wives,"²

¹ Monica Cosens, *Lloyd George's Munition Girls*, 1916, p. 114.

² Henriette R. Walter, "Munition Workers in England," *Munition Makers*, 1917, p. 138.

but this class of workers was, after all, small and was not increasing.

Mainly, however, the new needs of industry have been filled by working women or the wives of working men. Former factory hands, charwomen, and domestic servants are found on the heavier work, and shopgirls, dressmakers, and milliners on the lighter lines.

A fairly large proportion of the increase may, moreover, be accounted for without the recruiting of new workers. Numbers of home workers, of half-employed charwomen and of small shopkeepers and other employers have voluntarily become regular employes. Fewer women have married and fewer seem to have left industry on marriage since the war. A writer in *The New Statesman* noted of certain women munition workers that "a large majority of them—even girls who look scarcely more than sixteen—wear wedding rings."¹

Transfers between Districts

In connection for the most part with the expanding munitions industry there has developed a phenomenon rare on any large scale in the history of women in industry, namely, the transference of women workers from their homes to other parts of the country. The British government has naturally not encouraged detailed statements of the building of new munition plants and the extension of old ones, but occasional glimpses reveal revolutionary changes. In a speech to the House of Commons in June, 1917, the British Minister of Munitions said:

But the demands of the artillery programme, as it was formulated in the latter half of 1915, were such that it was necessary to plan for the erection of large additional factories. . . . They were erected at such a pace that what were untouched green fields one year were the sites a year later of great establishments capable of dealing with the raw materials of minerals or cotton, and of working them into finished explosives in great quantities every week.

¹ *The New Statesman*, January 13, 1917, p. 346.

Moreover, firms in operation before the war have frequently doubled and quadrupled their capacity. In Barrow, for instance, a somewhat isolated town in the northwest of England, the population grew from 75,000 in 1914 to 85,000 in 1916 on account of the enlargement of a munitions plant. To meet the needs of such centers it was necessary to secure workers from many other localities.

Effort was made to center any transference of women workers in the employment exchanges. The Ministry of Munitions' handbook of "Instructions to Controlled Establishments" recommended application to the employment exchanges for all female labor instead of engaging it "at the factory gate" in order that the supply might be organized to the best advantage and "any unnecessary disturbance" of the labor market avoided. But the recommendation was not universally adopted. An undated circular of the Ministry complained that in cases where the exchanges were not used skilled women, such as power machine operators and stenographers, for whom there was an "unsatisfied demand" on government work, had been hired for unskilled munitions work where unskilled women were available. Women had been brought into towns where lodgings were almost impossible to obtain while suitable local women were unemployed. Such occurrences and the "stealing" of skilled men by one employer from another caused an order to be made under the Defence of the Realm Act on February 2, 1917, which forbade the owner of an arms, ammunition, explosives, engineering, or shipbuilding establishment to procure workers from more than ten miles away except through an employment exchange.

The employment exchange figures of the number of women obtaining employment in other districts, which therefore probably cover an increasing proportion of the movement, are for 1914, 32,988, for 1915, 53,096, and for 1916, 160,003.¹ In March, 1917, the number of women workers being moved to a distance through the exchanges was between 4,000 and 5,000 a month. In February, 1917, 5,118 women from some 200 differ-

¹ *Labour Gazette*, March, 1917, p. 92.

ent exchange areas were brought into eight large munition centers alone. In this one month, 1,641 women were brought from sixty-three different districts to a single munitions factory in the south of Scotland, and to another in the West Midlands 772 women "were imported from centers as far apart as Aberdeen and Penzance." Official judgment ascribed the increased mobility of women labor to the rise in wages and the appeal of patriotism, which together supplied an incentive previously lacking.

Besides the munition workers, the transfer is noted during 1914 of silk and cotton operatives to woolen mills and of tailoresses from the east coast to Leeds uniform factories, and in 1915 of fisherwomen and others from the east coast resorts to the Dundee jute mills to replace the married women who left to live on their separation allowances. Some women substitutes for men in clerical and commercial work and in the staple industries, and agricultural workers, especially for temporary work, were transferred in 1916 as well as the munitions workers.

Care of Transferred Workers

The work of the "local committees on women's war employment" in recruiting women from non-industrial areas, meeting strangers, arranging for their lodging, and promoting "welfare" schemes has previously been outlined. For the women transferred under their auspices the employment exchanges were able to guarantee that such arrangements had been made. All women applicants for work in national factories were required to pass a medical examination before being allowed to leave home.¹ In all cases the working conditions and living expenses to be expected were fully explained, and the exchange had the power to advance railway fare.

But even with such precautions serious problems arose in transferring large numbers of women and girls long distances from home. Additional strain was involved in working among strangers. In one case where women munition workers were thrown out of work by a strike of the men, their plight was the

¹ *Labour Gazette*, March, 1917, p. 93.

more serious because many of them were miles from home and had not the money to return. For young girls the absence from home restraints and supervision was often harmful. One of the later reports of the Health of Munition Workers Committee of the Ministry of Munitions suggested a still more difficult situation in the following:¹

The arrival of mothers in a town accompanied by quite young infants, or three or four young children, having travelled long distances, is becoming more and more common—the mother is attracted, in the absence of the father on active service, by the prospect of high wages in munition works, and brings her baby or children with her.

So pressing had the problems become that the committee, while recognizing the valuable work done by the local volunteer committees, felt that the time had arrived when the state should appoint officials to "supplement, complete, or coordinate their work." In accordance with this recommendation a number of "outside welfare officers" were appointed in 1917 by the Ministry of Munitions, who aided the local committees and were held responsible for completeness in their arrangements.²

Can more women be obtained if the industrial needs of the nation demand, or has the expansion in the number of workers come near to exhausting the supply? The question is one to which it is hard to give an accurate answer. It has been pointed out that the number of women at work continues to increase rapidly. Late in 1916 the Board of Trade estimated that there were still 1,500,000 women with industrial or commercial experience who were not working. Women labor leaders replied that 1,000,000 of these women were over thirty-five and that almost all were married. To take such women away from homes and children "will not be to the national advantage."³

¹ Great Britain Minister of Munitions, Health of Munition Workers Committee, *Memorandum No. 17, "Health and Welfare of Munition Workers Outside the Factory,"* 1917.

² John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

³ Standing Joint Committee of Industrial Women's Organizations, *The Position of Women after the War*, p. 5.

In November, 1917, representatives of the Ministry of Munitions likewise thought there were plenty of women available, and called attention to the thousands of women registered at the employment exchanges. Over 29,000 adult women were on the "live register" on July 13, the latest date for which official figures were accessible in America in November. On the other hand, as far back as January, 1916, officials of the exchanges stated that a third of the unfilled applications were those of women not previously employed, and another third those of women in situations who wished to change.

An interesting discussion of the subject was found in the report of the chief factory inspector for 1916. Except in a few localities, it is there stated, "the supply of women labor still appeared to be practically unlimited."¹ The only acute scarcity was in the "normal" women's trades, which women had left for men's work and in which the "low pre-war standards of wages and welfare persist."¹ Considering that in 1911, over 12,700,000 "females ten years of age and over" were returned as "unoccupied," and only 5,800,000 as "gainfully occupied," it would seem that even with an increase of a million women workers, a considerable number of women might still be available to answer the call of the nation.

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 6.

CHAPTER VII

Training for War Work

It was with remarkably little organized training that the women took up their new lines of work and fitted into the men's places. The most extensive development of special training was to be found in the munitions industry, under the auspices of the Ministry of Munitions. An official circular of the Ministry, dated November, 1915, outlined a scheme for producing semi-skilled workers by strictly practical courses of thirty to one hundred hours' duration, intended to give the learner "machine sense" and to teach him to use some one machine tool. It was realized that this type of course was not in harmony with the best educational principles, but the necessities of the case demanded that nothing more should be tried than to turn out competent workers in the shortest possible time. The comparatively small demand for women munition workers at this time was suggested by the fact that while the classes were to be open both to men and women, it was recommended that the local authorities should be sure of employment for the latter before training them. The pupils were required to agree to work in munition factories at the end of their course.

By February, 1916, in the pamphlet on the "Employment of Women on Munitions of War" it was stated that over 10,000 persons had been trained in the courses, mostly educated men who were unfit for military service. The Ministry was now anxious "to apply and extend the methods indicated above" to women, who were entering the courses in increased numbers. In June, 1917, Dr. Christopher Addison, then Minister of Munitions, told the House of Commons that over 32,000 workers had been trained by more than sixty classes opened in existing technical colleges, and that five special factories were utilized solely for industrial training.¹ Dr. Addison did not, however, indicate

¹ Christopher Addison, *British Workshops and the War*, p. 36.

the proportion of women thus trained. According to representatives of the Ministry of Munitions, women were always trained "to order," and not "to stock."

Next, perhaps, to munitions work in frequency though much less extensive were the courses offered in agriculture. In connection with the women's county committees it was arranged that women should be admitted to the county farm institutes, and short emergency courses, some of only one month's duration, were started. During the season of 1916, 390 women completed such courses. In almost every county also large landowners and farmers gave free training to some women. In 1917, 247 "training centers" were reported and 140 farms had registered for the work.¹ Efforts were also being made to instruct the wives of farm laborers who could not leave home.

Vocational courses for other lines of work were much more scattering. The London County Council carried on short emergency courses along the lines advised by the "Shops" and "Clerical Employments" committees to prepare women for retail groceries and for business. It also carried on a successful course in gardening for six months, but had to drop it because housing accommodations were not available. Classes in the shoe trade were opened at Leeds, Bristol, and London, and in the manufacture of leather cases and equipment at London and Walsall. The Liverpool authorities began to teach women power machine operating and toymaking, the last being a trade expected to grow in England with the cessation of German imports. A course which attracted considerable attention because it provided skilled work at comparatively high pay after two or three months' training was the class in oxy-acetylene welding managed by "Women's Service," a private organization of women for war work. Women were not sent out as London bus conductors until they had several weeks of careful instruction in schools conducted by the companies. An interesting development in special training which accompanied the growth of welfare work in munition and other plants was the opening of several courses for would-be "welfare

¹ *The Survey*, Sept. 15, 1917, p. 527.

supervisors" in a number of the newer universities. A fairly long list of training courses was given for London alone by the National Union of Women Workers, but examination of the list shows that only a few were special war courses, and that most of them covered professional work for the minority, and not industry or trade for the many.¹

Some employers were said to prefer entirely untrained women to those who had gone through short emergency courses, because the latter were prone to overestimate the value of their training. But on the whole the classes were believed to give a much better start to the woman who realized that they left her, after all, still a beginner. Yet whatever their value, it is evident that the great majority of women learned their new tasks without any such help, entirely in the workshop.

¹ National Union of Women Workers, *Occasional Paper*, May, 1916, pp. 66-68.

CHAPTER VIII

Women and the Trade Unions

In England, as in other industrial countries, women workers have been notoriously hard to organize, and have formed but a small minority of trade union membership. In 1913 nearly 4,000,000 men and only 356,000 women were said to be members of English trade unions. Aside from the fact that prior to the war most women were found in unskilled and low paid occupations in which union organization had made but little progress among men, the usual explanation of the difficulty of organizing them was that most of them were young and expected to marry within a few years and to withdraw from industry. The one exception to this condition was the cotton textile trade, in which a large proportion of the women belonged to trade unions. Out of the whole number of organized women, 257,000 were in the textile trades. As already indicated, many of the unions in the skilled trades would not admit women members, and were unfavorable to any extension of their work.

Two special organizations were devoted to the promotion of trade unionism among women. The policy of the oldest, the Women's Trade Union League, was to put women into men's unions, or into societies formed in close connection with them. But in many trades where there were large numbers of women, men's unions did not exist or forbade the admission of women. The National Federation of Women Workers gave its attention to these occupations. Its membership was stated to be about 20,000 in 1913.

Since the war the number of women trade unionists seems to have grown at a comparatively rapid rate. The female membership was reported to be 356,092 on December 31, 1914—about the same as in 1913—and 400,919 on December 31, 1915, an increase of 12.6 per cent.¹ During the same period the male mem-

¹ *Labour Gazette*, June, 1917, p. 201.

bership rose but 5.3 per cent. This situation is doubtless due, however, rather to a drawing off of men workers into military service than to a proportionally greater interest in union organization among women.

Complaints were made that it was even harder than usual to interest some of the new workers in trade unionism because they were so consciously working only for the duration of the war. Women have been found who believed in the value of organization sufficiently to keep up the dues of the men whose places they were taking, but who refused to join themselves. But some observers predict an unprecedented spread of union organization among women if, after the close of the war, wage-cuts affect those who, for the first time, are undertaking responsible and fairly well paid work.

The principal agency concerned with unionizing women during the war period has been the National Federation of Women Workers, which, at its biennial convention in May, 1916, announced that its membership was then 40,000, having doubled since 1913. The federation was especially active among munition workers. Under its energetic secretary, Miss Mary Macarthur, it was credited with securing legislation and official action in behalf of the women war workers, in addition to its organizing work. Its breezy little monthly paper, *The Woman Worker*, which shed much light on the point of view of the woman trade unionist toward events of the day, was started in January, 1916.

The substitution question, it has been shown, emphasized the unfriendly attitude of many unions in the skilled crafts toward the women worker. In a number of cases, even where they were forced to permit "dilution," they seem to have retained an attitude of hostility or suspicion. Numerous individual instances of this kind may be found in the pages of the *Dilution Bulletins*. In some cases tools have been purposely set wrong or have not been supplied at all, and unfavorable reports of the women's work have been made without substantial basis. In spite of the munitions acts the Amalgamated Society of Engineers refused to admit women to membership, though it offered to cooperate with

the National Federation of Women Workers. The value of its help was somewhat problematical. The federation praised it highly, perhaps for tactical reasons, saying that several new branches were "literally made by A. S. E. men,"¹ while a writer in the *Women's Industrial News* stated that the one or two cases of A. S. E. action in behalf of the women "have had no pressure behind them," and secured only "negligible" results.² The two tramway unions also were among those voting down the admission of women.

Other unions—apparently on the whole the newer and more radical bodies—did let in the women workers. The waiters' union even opened a class to train them to replace the interned foreigners. The steam railway organizations admitted them, though not exactly on the same terms as men. The women substitutes naturally appear to have had a "smoother path" under these circumstances than where the policy of exclusion was maintained.

Persistence in the policy of excluding women after the war seems to many observers likely to result in undermining the strength of the skilled craft unions. Even though employers may be forced to turn off the women for a while, they will not fail sooner or later to turn to such a force of experienced female labor. And the women, many of whom will probably have been suffering from unemployment, unorganized, and without machinery for holding up the wage scale, are not likely to resist successfully the undercutting of the men's rates. It is even suggested that some of the women, indignant at their treatment, may be willing to see the men driven out. A growing bitterness between unskilled and skilled men is already reported over a like issue. From this point of view it is urged that the wiser policy for the unions is to admit women and to require them to be paid the equivalent of the men's wage scale.

¹ *The Woman Worker*, January, 1916, p. 13.

² *Women's Industrial News*, April, 1916, p. 19.

CHAPTER IX

Control of Women Workers under the Munitions Acts

The munitions act set up an unprecedented degree of control over the workers through three different methods—the prohibition of strikes, a restriction of the right of the individual to leave work, and the establishment of special “Munitions Tribunals” to regulate the leaving of work and to punish breaches of workshop discipline.

Prohibition of Strikes and Lockouts

The prohibition of strikes and lockouts was the most inclusive of the three. It applied not only to all “munitions work” as defined by the act,¹ but also to all work done “in or in connection with” munitions work, and to any other work to which the act should be applied by proclamation on the ground that stoppage of work would be “directly or indirectly prejudicial” to “the manufacture, transport, or supply of munitions of war.”² Strikes or lockouts were forbidden unless a dispute had been referred to the Board of Trade, which for twenty-one days had taken no action toward settling it. Further provisions for a more prompt settlement of disputes were included in the second amending act, in August, 1917. The penalty for violations by either employer or employe was a fine which might be as high as £5 (about \$24) per man per day. Disputes might be referred by the Board of Trade for settlement to any one of several subordinate bodies. Ordinarily the one used for men’s work was the “Committee on Production in Engineering and Shipbuilding.”³ After the passage of the first amending act⁴ in January, 1916,

¹ See p. 93.

² Munitions of War Act, 5 and 6 Geo. 5, Ch. 54, Part I, 2(1).

³ See p. 45.

⁴ 5 and 6 Geo. 5, Ch. 99.

the "Special Arbitration Tribunal" authorized by it to advise regarding conditions of women's work, was the body generally chosen by the Minister of Munitions to settle disputes involving women.

The clause prohibiting strikes was undoubtedly the result of the strikes of "engineers" on the Clyde early in 1915, and other disturbances on war work which followed after the "industrial truce" had once been broken. The prohibition was roundly denounced by the labor and radical groups as having "given rise to more strikes than it has prevented."¹ The South Wales coal strike in the summer of 1915, a few weeks after the passage of the act, which was settled, not by penalties, but by concessions to the men, is the best known example of the failure of the act. In June, 1917, according to the statement of the Minister of Munitions himself, over a hundred "disputes accompanied by short cessations of work,"² came to the attention of the Ministry each month. Strikes are comparatively infrequent among women workers, yet even there they occurred in defiance of the law. *The Woman Worker* recorded a case at a shell filling factory, where because a canteen attendant was, as they thought, unjustly dismissed, the girls refused to go back to work after the noon hour, and began to throw about the china and food in the canteen.³ Yet, while the strike prohibition was not a complete success, it was probably increasingly effective in reducing the number and seriousness of disputes. In the first five months of 1917, 540,-700 days were lost through disputes. The number of days lost during the same period in 1916 was 1,559,000 and in the first five months of 1914 over four times as many.²

"Leaving Certificates"

Since the keen demand for labor had arisen in the industry, the "labor turnover" of experienced workers in munition factories had reached abnormal proportions, causing loss of time:

¹ *Women's Trade Union Review*, July, 1917, p. 1.

² Christopher Addison, *British Workshops and the War*, p. 39.

³ *The Woman Worker*, February, 1917, p. 11.

and often of skill. The frequent changes and the resulting interruption to production had become the subject of serious complaints from employers.

To diminish this "labor turnover" a system of "leaving certificates" or "clearance cards" was put into effect. No person leaving munitions work could be given work by another employer for six weeks unless he or she had a "leaving certificate." The certificate was required to be granted by the employer on discharging the worker, and might be granted by a Munitions Tribunal if "unreasonably" withheld. This was the only condition inserted in the original act to prevent a certificate from being wrongfully withheld. The giving of employment contrary to these provisions, or the falsifying of a "leaving certificate," were serious offenses under the act, punishable by a maximum fine of £50 (about \$240). "Leaving certificates" might be required "in or in connection with munitions work" in any kind of establishments to which the regulations were applied by order of the Ministry of Munitions. In July, 1915, an order was issued requiring them in all engineering, shipbuilding, ammunition, arms and explosives establishments, and establishments producing substances required for such production. In May, 1916, all "controlled establishments" not previously included, and certain places providing electric light or power for munitions work, were added to the list.

The leaving certificate requirements were said to be the only feature of the munitions acts approved by employers, but no part was more unpopular with the workers. It was charged that skilled workers were tied to unskilled jobs and thus rendered powerless to move to better wages and working conditions. The following quotation from *The Woman Worker*¹ illustrates the labor point of view:

The first Munitions Act came quietly—on tip-toe, like a thief in the night, and not one woman worker in a thousand knew of its coming.

¹ January, 1916, pp. 5-7.

Their shackles were riveted while they slept. . . .

The foreman's reply to the complaining one is no longer: "If you don't like it you can leave it." She can't.

If she tries, she will find that no other employer will be allowed to engage her, and unless she can persuade a Munitions Court to grant a leaving certificate, six weeks' idleness must be her portion. And we know what that means to many a woman worker. Long before the six weeks are up, her little treasures, if she has any, are gone and God help her then.

. . . One great danger of the new conditions is that sweating and bad conditions may be stereotyped.

The other day a munition worker, who was being paid 12s. weekly, had a chance of doing the same work for another employer at 1 pound weekly, but the Court refused her permission to make the change. And thus we have a concrete case of the State turning the lock in the door of the sweaters' den . . .

Some people hold very strongly that these leaving certificate clauses of the Munitions Act are altogether unnecessary. They hamper and irritate men and women alike, and so far from accelerating output, may actually diminish it. Under the Defence of the Realm Act, it is already illegal for employers to incite munition workers to change their employment, and that should have been sufficient.

So stringent were the "leaving certificate" clauses in their original form, that in the amendment act of January, 1916, it proved necessary to add several conditions making them more favorable to the workers. If an employer refused a certificate when a worker was dismissed, or failed to give a week's notice or a week's pay in lieu of notice, except on temporary work, the tribunal could now make him pay as much as £5 (about \$24) for the loss of time, unless it appeared that the worker was guilty of misconduct to secure dismissal. A number of other conditions under which a certificate must be granted were laid down by the amending act. They included failure to provide employment for three or more days, failure to pay standard wage rates, behavior of the employer or his agent toward the worker in a way to justify his leaving, end of apprenticeship, and existence of another

opening where the worker could be used "with greater advantage to the national interest." Even *The Woman Worker* admitted of the amendment act: "Certainly in many ways it is an improvement over the old one. The workers have new rights; and if they are strong enough and clever enough to take advantage of them much can be done."

Difficulties still arose, however. Though on some government contracts, such as clothing, the system was not in force, it was often believed that the cards were required on every form of government work. They were indeed necessary in so many factories that employers hesitated to take workers without them, which made it hard to secure work in a munitions plant for the first time. Often the workers did not know their rights under the act to secure certificates or damages from the tribunals under certain conditions. It was finally decided that dismissal because of trade union membership was illegal, "tending to restrict output." By the help of the Federation of Women Workers three girls dismissed for joining the federation secured compensation for their dismissal from the local Munitions Tribunal, and the firm was finally fined for the act by the central court.

Nevertheless, in spite of all concessions, which officials of the Ministry believed had removed the admitted injustices of the act in its original form, the certificate system continued to cause much irritation among the workers. The official commissions to investigate the industrial unrest prevailing in the summer of 1917 named the operation of the system among its chief causes. It was because of the workers' protests that the second amendment to the munitions act, passed August 21, 1917, gave the Ministry of Munitions power to abolish the "leaving certificate" system if it thought it could be done "consistently with the national interest." Trade union leaders informed the government that they could not keep their members in line unless the system was given up. The Ministry issued an order abolishing the certificate after October 15, 1917.¹ Workers were merely required to remain on some kind of war work, except by permission of the Ministry,

¹ *Labour Gazette*, September, 1917, p. 314.

and at least a week's notice or a week's wages was necessary before leaving.

Munitions Tribunals

In addition to appeals for leaving certificates, the Munitions Tribunals dealt with breaches of workshop discipline, and with cases of disobedience to the instructions of the Ministry of Munitions. These courts were set up throughout the country. Each consisted of a chairman chosen by the Ministry of Munitions, and four or more "assessors," taken from a panel, half of whom represented employers and half employees. The "assessors" served in rotation, a session at a time. There were two classes of tribunals, "general," dealing with all offenses, and "local," with those for which the penalty was less than £5 (about \$24). The latter handled the great majority of the cases, settling 3,732 between July and December, 1916, whereas the general tribunals took up only 182. Under the original munitions act the general tribunals had the power to imprison for non-payment of fines, but this aroused such resentment among the workers that it was taken away by the first amendment act.

The Munitions Tribunals, like leaving certificates, were a source of much annoyance to working women. Complaints were made that the representatives of the Ministry of Munitions had no understanding of the labor point of view, so that there was always a majority against the employes. Fines, unlike those imposed by employers, did not have to be "reasonable" in the legal sense of the word, and their size was not known to the workers beforehand. An employe summoned before a tribunal lost at least a half-day's and sometimes a full day's work, or several hours of sleep if a night worker. Previous to January, 1916, women workers might be obliged to appear before a tribunal composed entirely of men. But by the amending act, as "the direct outcome of a scandalous case" in which three girls who had left their jobs because of "gross insult" were obliged to explain the circumstances with no woman present,¹ it was required that at

¹ *The Woman Worker*, January, 1916, p. 7.

least one of the assessors representing the employes should be a woman in every case in which women were involved.

Whatever the justice of the employes' contentions, certainly the decisions rendered by the tribunals during their first few months of activity, for which alone figures are available, were generally unfavorable to the workers. From the beginning of their work to November 27, 1916, 814 cases involving 3,672 persons were heard against employes. Convictions against 2,423 of these were secured, and fines amounting to £2,235 were imposed. Against employers there were but eighty-six cases involving ninety-four persons, fifty-six persons convicted, and a total in fines of £290. Out of 3,014 requests for leaving certificates, only 782 were granted.

CHAPTER X

Wages

Probably no factor in the working conditions of women is more vital to their welfare than the wages they receive. A study of the changes in wages brought about by the war is therefore of special importance. Ordinarily women seldom do precisely the same work as men, and they ordinarily receive wages not more than half as high. Did the difference continue when the women took up men's jobs? The fear that the women would lower the rates established by the men's trade unions was, as we have seen, one of the main reasons for the opposition of male trade unionists to "dilution." In what measure was the women's demand for "equal pay for equal work" attained? The replacement of enlisted men by women and the extensive use of women in the manufacture of munitions invested women's work as never before with the character of a national service, and this led to a demand for more adequate wage standards. In considering the subject of wages it should always be kept in mind that, roughly speaking, wages and prices are about half as high in England as in the United States, though the difference in prices was probably somewhat lessened during the third year of the war.

Governmental Wage Regulation in the Munitions Industry

In fixing wages on munition work government control of wages was extended to a new group of industries, and some novel precedents were established. A good many complaints were made of inadequate wages paid woman workers on ammunition and ordnance in the first months of the war, before the "dilution" movement had started. In the Clyde district, 15s. weekly (\$3.60) was said to be a common rate. A "women's war interests committee" at Manchester found the women getting 12-15s. weekly (\$2.88-\$3.60) when the "standard rate" of the

district was 20s. (\$4.80). The committee initiated a campaign for a guaranteed minimum of 20s.¹

Three of the forces enumerated above seemed to have played a part in forcing up the wages of women munition workers, namely, public recognition of their services to the state, the women's belief in "equal pay for equal work," and the effort of the men's unions to maintain their wage standards. The last was perhaps the strongest motive with the trade unionists who secured in March, 1915, a clause in the Treasury Agreement to the effect that "the relaxation of existing demarcation restrictions or admission of semi-skilled or female labor shall not affect adversely the rates paid for the job." Miss Sylvia Pankhurst immediately sent an inquiry to Lloyd George, asking for an interpretation of this somewhat ambiguous statement. She received the reply:

Dear Miss Pankhurst: The words which you quote would guarantee that women undertaking the work of men would get the same piece-rates as men were receiving before the date of this agreement. That, of course, means that if the women turn out the same quantity of work as men employed on the same job, they will receive exactly the same pay.

Yours sincerely,
(Signed) D. LLOYD GEORGE.

She then asked if they were to receive the same war bonuses and increases as men, and what was to be paid women time workers; but her second letter was not answered.

The complaints and agitation continued. Mrs. Pankhurst escorted a procession of women to interview the Minister of Munitions about wages on munitions work. Examples of sweated wages were cited in Parliament. Finally, in October, 1915, the Ministry sent out to all "controlled establishments" a circular of recommendations for wage rates for women "on men's work," drawn up in consultation with the Central Labour Supply Committee. The circular, which is always referred to as "L2," fixed

¹ B. L. Hutchins, *Women in Modern Industry*, p. 295.

a prescribed (not a minimum) time rate of £1 (\$4.80) weekly, and the same piece-rates for women as for men. A special paragraph emphasized that women doing skilled men's work should be paid the men's rates. The Ministry had no power to enforce the recommendations, however, and they were by no means universally observed. Opinions as to their efficacy vary from the official view that "National factories were instructed to adopt these provisions, and many, though not all, private firms put them into force,"¹ to the radical criticism that the "recommendations might have been of value had there been any means of enforcing them. As it was, the circular was merely an expression of opinion which [tended to lull the public] into a state of security unjustified by facts."² *The Woman Worker* even went so far as to say that "In January last [1916], a very important firm stated that they were the only firm in the United Kingdom that were paying wages in accordance with Mr. Lloyd George's circular."³

In the fall of 1915 the trade unionists entered on an active campaign to give the Ministry power to fix wages for women and unskilled and semi-skilled men, the men's unions fearing the permanent lowering of their standard rates, and the women's organizations being perhaps more concerned in behalf of the underpaid women themselves. In January, 1916, the men's unions demanded, as the price of their continued help in promoting "dilution," that the provisions of "L2" should be made compulsory. By the amending act of January 27, 1916, the Minister of Munitions was empowered to fix wage rates for all females and for semi-skilled men on skilled work in munition plants where clearance cards were required.⁴ The National Federation of

¹ United States Bureau of Labor Statistics, *Monthly Review*, August, 1917, p. 123.

² *Women's Industrial News*, April, 1916, p. 15.

³ *The Woman Worker*, April, 1916, p. 9.

⁴ The amendment act of August, 1917, gave the Minister of Munitions further power over wages for all workers. He might give any directions regarding pay for all time workers on munitions considered necessary to maintain or increase output and might apply any special wage awards which covered the majority of the employers in any trade to the whole of the trade. No information about any use of these powers to alter women's wages was at hand at the end of November, 1917.

Women Workers was active in securing the change, and its magazine describes the struggle in its usual picturesque style.¹

Wage Fixing for "Women on Men's Work"

In a month the provisions of Circular L2 were made compulsory.² The directions were "on the basis of setting up of the machines being otherwise provided for. They are strictly confined to the war period." Women time workers eighteen and over on men's work were to be paid a pound (\$4.80) for a week of the usual hours worked by men in engineering. Rates for piece work and for work ordinarily done by "fully skilled" men were to be the same as those customarily paid men, but women were not to be put on any form of piece work until "sufficiently qualified." The principle of "equal pay for equal work" was further laid down specifically in the following clause: "The principle upon which the directions proceed is that on systems of payment by results—equal payment shall be made to women as to the men for an equal amount of work done." Further safeguards of the rates included giving women the same overtime, night shift, Sunday, and holiday allowances as the men, and providing that piece rates should not be cut. Women were to be paid at the rate of 15s. a week (\$3.60) for time lost by "air raids" or other causes beyond the workers' control. The order was applied only to controlled establishments in engineering and allied industries, as it was designed primarily to meet conditions in those trades.³

Wage Fixing for "Women Not on Men's Work"

The regulation of wages for women doing men's work covered only part of the munition workers, however. As *The Woman*

¹ *The Woman Worker*, January, 1916, p. 7.

² Great Britain, *Statutory Rules and Orders*, No. 181, February 24, 1916.

³ The list of establishments to which the wage orders are applied is never published, as it is considered "contrary to the national interest." Information as to their scope comes mainly from an article in the United States Bureau of Labor Statistics *Monthly Review*, "Women's Wages in Munition Factories in Great Britain," August, 1917, for which many facts were supplied by an administrative officer of the Ministry of Munitions.

Worker remarked, "What about the women who are doing important work not recognized as men's work? There are many more of these; they are, generally speaking, much worse off; they are less able to protect themselves; and, therefore, this claim on the Minister to fulfil his pledged word is even stronger than for the others."¹ In March, 1916, under powers given the Ministry of Munitions by the munitions amendment act, a "Special Arbitration Tribunal" was established to settle disputes regarding women's wages referred to it under the anti-strike clauses of the munitions acts, and to advise the Minister on wage awards for women munition makers. The tribunal consisted of a secretary and half-a-dozen members, two of whom were women. In Miss Susan Lawrence it had a woman long active in behalf of the women workers, and in Mr. Ernest Aves an expert on minimum wage regulation. The tribunal is said to have been "perhaps more important and successful than was expected."² The National Federation of Women Workers at once brought before it several cases dealing with the wages of munition workers in individual factories on "work not recognized as men's work." In general the awards made in these cases gave time workers about 4½d. (9 cents) an hour, and piece workers a guaranteed minimum of about 4d. (8 cents), with the provision that the piece rates should yield the ordinary worker at least a third more.

The Minister of Munitions then asked the special tribunal for recommendations as to a general wage award for females on "work not recognized as men's work." Because precedent and data were lacking it was said to be extremely difficult to fix these rates. But finally the tribunal made a recommendation along the lines of its special awards, which was issued as an order on July 6, 1916.³ Four pence (8 cents) an hour was guaranteed piece workers of eighteen or over and adult time workers were given 4½d. (9 cents). A half penny an hour additional was given for work in the danger zone, and special rates might be fixed for

¹ *The Woman Worker*, April, 1916, p. 9.

² John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

³ Great Britain, *Statutory Rules and Orders*, No. 447, July 6, 1916.

dangerous or unhealthy processes. Special rates could be set for workers of special ability. The rates were expressly limited to the war period, "depending on exceptional circumstances arising from the present war." The award was applied to about 1,400 arms, ammunition, explosives, and shipbuilding firms, covering these trades with a few exceptions of firms in the rural districts. Its provisions aroused a storm of criticism from women trade unionists, for Lloyd George had just announced his policy in regard to the payment of women munition workers as follows:

The government will see that there is no sweated labor. For some time women will be unskilled and untrained; they can not turn out as much work as the men who have been at it for some time, so we can not give the full rate of wages. Whatever these wages are, they should be fair, and there should be a fixed minimum, and we should not utilize the services of women in order to get cheaper labor.

The women charged that the fixing of standard rather than minimum rates was in contravention of this promise. The official retort to this was that "the only undertaking . . . by the Minister . . . related to the wages of women on men's work."¹ No special allowances for overtime, night and Sunday work or for time lost by no fault of the workers were included. The piece work rates were not arranged so that the average worker could earn a higher rate. Only munition work in the narrow sense was covered, and important war industries where leaving certificates were required were omitted, such as the chemical, rubber, cable, and miscellaneous metal trades. The Women's Trade Union League and the National Federation of Women Workers immediately organized a deputation of protest to the Ministry. As a result, a revision of the award was issued in September which restored the extra payments for overtime and night work, and stated that unless a special exemption was

¹ United States Bureau of Labor Statistics, "Wages of Women in Munition Factories in Great Britain," *Monthly Review*, August, 1917, p. 123.

granted by the Ministry, piece rates must be such as to yield a worker of "ordinary ability" a third more than her time rate.¹

Revision of Award for "Women on Men's Work"

By this time also, according to the official view "it had become increasingly apparent . . . that the provisions of Circular L2 . . . were too rigid." No time rates between the £1 a week and the skilled men's rate were allowed, and women doing especially laborious or responsible work could not receive special pay.

A violent controversy was likewise going on as to the payment of women doing part of the work of skilled men. The unions claimed that the understanding was that women should receive the skilled men's rate no matter how small a part of the work they did; the employers said that such an arrangement was entirely unreasonable. The Central Munitions Labour Supply Committee, the author of the original "L2," was called on for advice. Recommendations acceptable both to it and to the Special Arbitration Tribunal were finally worked out and issued as an order January 1, 1917.² Even the trade unionists acknowledged that an improvement had been made, and that the standard time rate was less likely to be used as a maximum. The £1 time rate was payable for a working week of forty-eight hours. Any overtime up to fifty-four hours was payable at 6d. (12 cents) an hour, and beyond that at men's rates. Special rates, not laid down in the order, might be fixed for women time workers on "work customarily done by semi-skilled men," on specially laborious or responsible work, or where any "special circumstances" existed. Under this clause a number of appeals were carried to the Special Arbitration Tribunal, and special awards made. The clause giving women on skilled work the same rates as men was reenacted, but it was stated that "a further order on this subject will shortly be issued." This was done on January 24.³

The compromise adopted set off a special class of women who

¹ Great Britain, *Statutory Rules and Orders*, No. 618, September 13, 1916.

² *Ibid.*, No. 888, January 1, 1917.

³ *Ibid.*, No. 49, January 24, 1917.

did only part of a skilled man's work. In this class were to be placed all women who did not do the "customary setting up" of the machines, or who required supervision beyond that usual for the men. Such women were to serve a three months' "probationary period," receiving the specified time rate for four weeks, and then rising by equal weekly increments to the skilled men's rate at the end of the thirteenth week. But, by special permission of the Minister of Munitions, a maximum of 10 per cent of the skilled men's rate might be deducted to meet the additional cost of extra setting up and extra supervision. The time rate, which remained £1 for a forty-eight hour week was to be the minimum in all cases, however. A woman doing all the work of a skilled man was still to be paid his rate. Other clauses relating to overtime, cutting of piece rates, allowances for lost time, and so on, were the same as in previous orders for "women on men's work." The order was applied to some 3,585 "controlled establishments" in arms, ammunition, ordnance, various other forms of "engineering," and miscellaneous metal trades.

Extension of Award Covering "Work Not Recognized as Men's Work"

Meanwhile, in October, 1916, "munitions" establishments not included in the outstanding wage order for women and girls on "work not recognized as men's work" were notified that they would shortly be covered unless they could show reasons to the contrary. Many protests from employers resulted, but early in January the former order was reissued with slight modifications and made applicable to a wider range of establishments.¹ It now covered about 3,875 "controlled establishments," including other forms of engineering, miscellaneous metal trades, and chemicals, asbestos, rubber, and mica, as well as munitions work in the narrow sense of the term. The chief modifications were a probationary period (one month for adult women) during which a half penny an hour (1 cent) less might be paid, and

¹ Great Britain, *Statutory Rules and Orders*, No. 9, January 6, 1917.

permission to apply for a special rate for girls in warehouses as distinct from factories. A companion order fixed rates a farthing an hour lower for a few factories in rural districts.¹

General Increases in the Awards

In March, 1917, the National Federation of Women Workers began agitation for an increase of 2d. (4 cents) in hourly rates and 5s. (\$1.20) in weekly time rates. The rising cost of living and the general increase of 5s. weekly granted men in engineering and shipbuilding were among the principal reasons cited for the change. The Ministry stated that increases were already under consideration, and on April 16 announced that they would go into effect as of April 8. Women time workers on "men's work" received 4s. a week more or a total of 24s. (\$5.76).² For work "not recognized as men's work" the gain for adults was 1d. (2 cents) an hour for time work, 3/4d. (1½ cents) for piece work.³ It was stated that on April 19, 1917, the only trades left outside this order which the Minister had power to cover were the bolt, nut and screw, which was under consideration; tin box and paper box, which were regulated by the trade boards; oil and seed crushers, in which women were mostly doing men's work; glass, emery and aluminum works, which were unimportant; soap, in which were few, if any, women, munitions work; and pottery, hollow-ware, brick and fire clay.

On August 16, still another general advance was made of 2s. 6d. (60c.) for women eighteen and over for a week of the customary working hours.⁴ In the autumn of 1917, it was reported that the arrangement for revision of the wages of men in the engineering trades was to be extended to women. The men have the right on application to have their wages altered three times a year according to changes in the cost of living.⁵

¹ Great Britain, *Statutory Rules and Orders*, No. 10, January 6, 1917.

² *Ibid.*, No. 489, April 16, 1917.

³ *Ibid.*, No. 492, April 16, 1917.

⁴ *Ibid.*, No. 893, August 16, 1917.

⁵ Boston *Christian Science Monitor*, September 20, 1917.

An award by the Special Arbitration Tribunal during the summer of 1917 was of special importance in that it reaffirmed the equal pay principle. The tribunal found that after two weeks women crane drivers for a Scottish firm could undertake the whole of the work formerly done by men and perform it with equal efficiency. They were therefore given the men's rates and allowances.

Wage Awards for Women Woodworkers

Besides "men's" and "women's" work, a third set of governmental wage awards covered women in the woodwork industry where large numbers were employed, especially on woodwork for aeroplanes. The trade unions had agitated the question vigorously on the basis of maintaining their standard rates. But the administration felt that "the aircraft industry has extended enormously since the war began . . . to legislate for women's wages on the customs existing prior to the war might unduly hamper the development of the trade." The wages fixed in September, 1916, on the basis of recommendations by the Special Arbitration Tribunal were 5d. (10c.) an hour for experienced adult time workers, and a guarantee of 4½d. (9c.) for piece workers.¹ These rates were about ½d. (1c.) an hour higher than those for women not on men's work, thus approximating the "men's work" awards. Extra rates were payable for overtime, and the various precautionary clauses of the earlier awards were repeated, except that no recognition of the equal pay principle appeared. The order covered some ninety establishments. Early in 1917 the Special Arbitration Tribunal was asked to advise on rates for woodwork in general. The tribunal found it difficult to preserve the scheme of the men's rates in the trade, and finally drew up a concise interim order with minimum rates similar to those for ordinary processes on woodwork for aeroplanes.² Meantime the April general increase was decided on

¹ Great Britain, *Statutory Rules and Orders*, No. 621, September 12, 1916.

² *Ibid.*, No. 313, March 30, 1917.

so that the award was modified on that basis, giving an hourly rate of at least 6d. (12c.) to an adult woman with eight weeks' experience. Unlike previous awards, this was neither a standard nor a fixed rate but a true minimum. The order covered about 300 establishments. The rates for woodworkers on aircraft likewise shared in the general increases of April and August on the same basis as in other munitions work.¹

Criticism of Governmental Wage Fixing in Munitions Work

The governmental policies in the wage fixing outlined above were the subject of some sharp criticisms. That the government did not cover all munitions work and not even all controlled establishments was one grievance. Under the wider application of the "leaving certificate clauses" it was said that some firms could continue to pay sweated wages while tying the workers to their jobs. However, by April, 1917, 90 per cent or about 380,000 out of the 400,000 women in controlled establishments were covered. In May the national shell factories in Ireland agreed voluntarily to adopt the wage scale of the awards. Though the letter of the law would indicate otherwise, the Ministry does not believe it has power to fix wages outside controlled establishments.

Most of the rates, it will have been noticed, were not "minimum," but "standard" wages. That is, they were to be paid unless special circumstances existed and special awards were made. Trade unionists said that only minimums should have been fixed, and that the time rates, especially, were taken as a maximum. In some cases it was alleged that women were kept on time work, and not allowed to earn piece rates. But the Ministry believed that "experience justifies the adoption" of a standard rate, which checked constant agitation for changes. On work of a temporary character, as much munitions work is, it considered it advantageous both to employers and employes to know the rate definitely.

¹ Great Britain, *Statutory Rules and Orders*, No. 491, April 16, 1917.

It was also charged that the orders were frequently not obeyed and that piece rates were illegally cut. Without first hand investigation it was naturally impossible to estimate how far these charges were true. No doubt instances of the sort have occurred, but certainly the Ministry has made efforts to get its orders obeyed. In April, 1917, it was obtaining information concerning present wages and wages the year before from all controlled establishments, and preparing another inquiry "designed to see that evasions . . . are reduced to a minimum."¹ In June, 1917, the Minister of Munitions stated that the average weekly wage of women in munition works was 25s. (\$6.00)—sufficiently high, if accurate, to denote compliance with the orders. An influential group of women trade unionists admitted, in the winter of 1916–1917, that wages in the engineering industry were "considerably higher than the ordinary women's rate," and that in the fuse and powder trade they had been "revolutionized."² The newspapers, of course, were full of the high wages earned by women munition makers—£3, £4, and £5 a week. Apparently a few very capable piece workers did sometimes succeed in earning as much as this, but these cases were undoubtedly exceptional. Another indication of at least a frequent observance of the orders was the report, by a committee of the British Association for the Advancement of Science, that where two sets of women were working in the same shop, the one on work subject to wage regulation and the other on work not so controlled, "even although a similar amount of skill was involved, two sets of wage rates were in operation. A double standard of wages as between men and women has long been a well recognized fact of industry; but a double standard, as between one set of women and another, in contact with each other, and on work involving similar powers, is a new phenomenon."³

¹ United States Bureau of Labor Statistics, "Women's Wages in Munition Factories in Great Britain," *Monthly Review*, August, 1917, p. 120.

² Standing Joint Committee of Industrial Women's Organizations, *The Position of Women after the War*, p. 7.

³ British Association for the Advancement of Science, *Labour, Finance, and the War*, p. 91.

Still, in estimating these or any other wage increases, the greatly augmented cost of living must not be overlooked. The rise was estimated at 40 per cent in February, 1916, when the first compulsory award was made, 70 per cent in April, 1917, at the time of the first general increase, and 85 per cent in August, 1917. Rents were held to their former levels by a law which forbade raising them unless structural improvements were made, but fuel, shoes, and clothing were all higher, the tax burden was greater, and food had more than doubled in price. The rate set for time workers on "men's work" in munitions in February, 1916, £1, was equivalent to 14s. 3d. before the war, and later changes, barely kept real wages from falling. The 24s. of April, 1917, corresponded to 14s. 2d.; and 26s. 6d., the August award for substitutes for men on time work in munitions amounted to scarcely more than 14s. at the pre-war scale of prices.

Yet all in all it would seem that the Ministry of Munitions was justified in its claim that, "When consideration is given to the diverse nature of the trades, the absence of any data on which the department could work when it first took up the question of regulating women's wages, the absolute novelty of wage regulation by a government department, the extreme urgency of the many difficulties which arose, the reluctant attitude of employers and the interdependence of commercial work and munitions work, the department feels justified in claiming a very considerable adjustment in the matter of women's wages."¹

Wage Fixing by the Trade Boards

The trade boards, authorized in 1909 to fix minimum wage rates for the sweated trades, afford an excellent example of the maintenance of legal standards in war time. In no case where they had taken steps toward fixing minimum rates did they allow the war to be used as a pretext for interrupting their work. The boards which had been established prior to the war for confectionery and shirt making in Ireland and for tin boxes and hol-

¹ United States Bureau of Labor Statistics, "Women's Wages in Munition Factories in Great Britain," *Monthly Review*, August, 1917, pp. 119-120.

low ware in Great Britain continued their work, and made awards which went into effect during 1915. Partially effective orders for confectionery and shirt making in Great Britain became obligatory during the same year. Moreover the scope of two boards was extended, of tailoring to cover certain branches of retail work, and of lace finishing to include "hairnets and veillings." A new board was even set up proposing rates for linen and cotton embroidery in Ireland, which lines had been put under the jurisdiction of the trade boards act before the outbreak of war. But since the war the act itself has not been extended to any new industries.

The more direct effect of the war, however, was to cause all of the existing boards except those for chain making and linen and cotton embroidery to make considerable advances in their minimum rates in an effort to meet the rising cost of living. For instance, the British tailoring board raised the rate for experienced women from $3\frac{1}{4}$ d. ($6\frac{1}{2}$ cents) to 4d. (8 cents) an hour in January, 1915, and proposed a further increase to $4\frac{1}{2}$ d. (9 cents) in July, 1917. A special minimum rate of 6d. (12 cents) for experienced women cutters, a class of work in which women had replaced men since the war, was fixed in April, 1916. Similarly confectionery and tin boxes had been raised from 14s. 1d., weekly (\$3.38), to 16s. 3d. (\$3.90), and a minimum rate of 19s. 6d. (\$4.68) was proposed. But it should be remembered that 19s. 6d. was in August, 1917, roughly worth but 12s. 8d. before the war, and $4\frac{1}{2}$ d. was equivalent only to $2\frac{1}{2}$ d. Even the most considerable of these changes failed to keep pace with the rise in the cost of living.

Wage Changes under Trade Union Agreements

A third method by which the wages of many women were regulated was through agreements with the trade unions. Such agreements really formed a phase of the "dilution" question. Women must be prevented from becoming unfair competitors and from undercutting the standard rates. Consequently, as has been described, the agreements usually prescribed that women

substitutes should be paid the men's rate. This was the standard used in admitting women to men's jobs in such important industries as cotton, woolen and worsted, china and earthenware, and boots and shoes. Women were for the first time admitted to work on the more important knitting machines on condition that they should receive the men's piece rates. In such instances the real wages of the women were undoubtedly materially improved.

Another important wage agreement made by the railway unions in August, 1915, secured for the women in grades where they had not been employed before the war the minimum pay given men of the same grade. The agreement did not cover women taken on as clerks, however. In October, 1915, the men's war bonus was increased to 5s. a week (\$1.20) and a number of women applied for it. The companies claimed that the August agreement tacitly excluded the women from participation in the bonus, and the Committee on Production, to whom a test case was referred, agreed. But when the men's bonus was increased to 10s. (\$2.40) in September, 1916, it was "generally felt that it would only be fair to grant the women¹ something." Accordingly, in November, 1916, those over eighteen were given a bonus of 3s. weekly (72 cents) and those under eighteen, 1s. 6d. (36 cents).

In a few cases, the trade unions were satisfied, because of the reorganization of the work, with something less than the men's rate for women substitutes. In the agreement for the bleaching and dyeing trades, a minimum of four-fifths of the men's rate was fixed for time workers though where women turned out the same quantity they were to be paid the same piece wages as men. The Shop Assistants' Union was content with four-fifths of the men's rates for the women, since a few men had nearly always to be retained for heavy lifting. As a matter of fact, in many cases the organization was not strong enough to secure even as much as this.

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

Wages in Other Trades

Other government departments were not on the whole as generous as the Ministry of Munitions, though the Admiralty advanced its rates in April, 1917, in response to a trade union appeal, the new level corresponding roughly to that in munitions work. The minimum time rate was 24s. (\$5.76) instead of 20s. (\$4.80). The new rate for a "fully skilled laborer," 46s. (\$11.04) was the same for men and women. Variations were permitted under special circumstances at the discretion of local officials. Previous to this time, in 1915, the Admiralty, like the War Department, had given women workers a war bonus of only 2s. a week (48 cents) when they had given male mechanics and laborers 4s. (96 cents). Wage increases in the Postoffice Department were given in the form of war bonuses, which were larger for men than for women. The war bonuses granted all low-paid employes in 1915 were 2s. or 3s. (48 cents or 72 cents) for men and only half that amount for women.

Perhaps the strongest complaints of women's wages in governmental service were made about the women clerks taken on by the Civil Service. They received only 20 to 26s. (\$4.80 to \$6.24) for ordinary clerical work, and 30s. (\$7.20) for supervision of clerical work which involved considerable responsibility. Women were found who were paid 20s. (\$4.80) for the same work for which men had been receiving 30-40s. (\$7.20-\$9.60). The Women's Industrial Council even found it advisable to call a conference on the matter, and to form a committee to take up the question with those responsible. The results of its work were not available in October, 1917.

The wages paid women substitutes for men in trades in which neither legal regulation nor agreements existed are difficult to discover. Agriculture, bread, rubber, confectionery, and saw-milling are important examples of trades of this sort. In such cases the Joint Committee of Industrial Women's Organizations believed that "rather more is gained than the current wage for women. There is no reason whatever to suppose that the rates

approximate to the rates of the men displaced."¹ The factory inspectors in 1916 stated that in a few cases there were complaints of very low wages, and women replacing men in bottle works were said to be earning only 11s. a week (\$2.64)."² On the other hand, an investigation of clerical workers' war wages showed that many bookkeepers replacing men were receiving the same pay. The wages of stenographers had increased perhaps 10s. (\$2.40) a week during the war.³ The failure of the low wages offered in agriculture to attract a sufficient number of workers has previously been commented on.

The smallest increases in wages appear to have occurred in the trades in which large numbers of women were employed prior to the war. In some cases, to be sure, as in power machine operating, steadier work and overtime made earnings considerably higher. But actual changes in wage rates were small, and were generally in the form of a "war bonus" of 2s. (48 cents) a week or less, which obviously was not sufficient to cover the rise in prices. Wages for learners were said to have increased more than those for experienced workers. The necessity of a decided rise in wages to keep workers from transferring to men's trades made itself felt but very slowly. The only lines in which wage increases of this nature had been noted up to the end of 1916 were high class dressmaking and millinery in London.

The Equal Pay Question

The question as to how far women substitutes received pay equal to that of the men they replaced is not as simple as it may appear. It is necessary to ascertain whether the work has been reorganized, or if not, whether a woman substitute is doing the same amount and variety of work that the man did. The goal desired by the advocates of "equal pay for equal work" would

¹ Standing Joint Committee of Industrial Women's Organizations, *The Position of Women after the War*, p. 8.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 6.

³ *Women's Industrial News*, October, 1916, p. 64.

perhaps be more accurately expressed by the term "economic equality between men and women." This goal would be reached, not necessarily by the same rates of pay for men and women in every instance, but by rates for women which would prevent their displacing men because they were cheaper.

Opinions as to the relative efficiency of men and women on work within the limits of a woman's strength vary, but seem to grow increasingly favorable as the war goes on and women gain experience in their new positions. The average woman can not, of course, do as heavy work as the average man. The judgment of the British Association for the Advancement of Science, in August, 1915, was that on the whole adult women were less productive than men. The Association held that they showed less judgment and initiative, had less strength and more sickness, and because they expected to leave work on marriage they were less ambitious for training. The last fact, however, made them more willing to do routine, monotonous work. These limitations applied especially to adult women. Young girls were generally considered more helpful than boys of the same ages.

In April, 1916, in its second report, the British Association was not so certain of the lesser capability of women workers. It quoted one railway official to the effect that women car cleaners could not get through as much work as men, but other railway officials believed that "what women lacked in quantity of work they made up in quality." They could do a surprising amount also "if they had sufficient wages to feed and clothe themselves properly."¹ Women shop assistants were found as satisfactory as men on all work within their strength. But it was believed that the managerial positions in stores would continue to be reserved for men, who were more willing to train for them and more likely to be permanent. The factory inspectors said in their 1916 report that where women were found unsatisfactory it was generally the case that wages were too low to attract competent workers.

¹ British Association for the Advancement of Science, *Labour, Finance, and the War*, p. 201.

A large steel manufacturer, Lord Airedale of Gledhow, gave interesting testimony as to the efficiency of women. He said:

There is one thing that the war has taught us here in Great Britain. That is the capacity of women for industrial work. I am satisfied, from my experience, that if we started to train women when they are quite young, at the age when we make boys apprentices, they could do an immense amount of work in engineering trades, apart from machine minding, and the simpler duties they now perform.

The same thing applies to clerical work. Women are doing the clerical work in the London City and Midland Bank, of which I am a director, with the greatest possible success. Some of these young women, I am informed, have become managers. Here again training is all that is necessary to equip for very important work.¹

Some of the strongest tributes to women's industrial efficiency came from the Ministry of Munitions. Lloyd George stated that "The country has been saved, and victory assured by the work of women in the munition factories." From time to time the *Dilution Bulletins* contained examples of an actual increase in output when women replaced men. For example, at an east coast aeroplane factory, twelve women were said to be making twice the number of pulleys formerly made by sixteen men. The output of a horseshoe manufactory increased $7\frac{1}{2}$ per cent after ninety women replaced the same number of men. Frequently when women failed in their work the cause was found to be outside their control. In one case spoilt work was due to the setting of tools wrong by men who were opposed to "dilution." Lack of proper lifting devices was not an uncommon handicap.

The question is of course greatly complicated, especially in industry, by the fact that women are probably not in the majority of cases doing precisely the same work as the men who preceded them. At least four different forms of substitution can be distinguished, in all but one of which the woman's work is not

¹ "Two Important Lessons from England's Experience," *System*, June, 1917, p. 567.

identical with the man's. These have been called (1) complete or direct substitution, (2) group substitution, (3) indirect substitution, and (4) substitution by rearrangement.

"Complete" or "direct" replacement occurs only when a woman takes up the whole of the same work that a man has been doing. The frequency of this form of replacement has probably been overestimated because it necessarily occurred when women took men's places in such non-industrial positions as postmen, drivers, and tramcar conductors, with whom the public comes in daily contact. Until perhaps the third year of war, however, such complete replacement was for the most part found in the lighter forms of comparatively unskilled work, for instance, sweeping in bakeries, filling sacks in chemical plants, and some light, unskilled work in munitions and other metal trades. Even in clerical work women were substituted for men largely in the more routine, less skilled branches. But in 1916-1917 an increasing number of women proved able to do the whole of a skilled man's work, even, in some cases, to "setting up" and repairing their machines. Women were found who seemed to be "natural mechanics"—a quality formerly thought to be entirely lacking in the female sex.

"Group" substitution is said to take place when a group of women do the work of a smaller number of men. It is the method of substitution often used in provision stores and other forms of retail trade. In some cases it has proved to be only a temporary arrangement, followed in a few months by "complete" or "direct" substitution, as the women gained in experience and efficiency and became able to do as much work as the men. The so-called "indirect" form of replacement has been common in the metal trades, especially when additional women were first being added to the force. An unskilled man or a boy was promoted to skilled work, whose place, in turn, was taken by a woman. This form of substitution, it is said, is particularly easy to overlook.

The equal pay situation becomes most complicated under the form of substitution most frequent in the skilled trades, namely,

substitution by rearrangement. In this case the trade processes themselves are changed on the introduction of women workers. Excellent illustrations of this form of substitution may be drawn from the munition branch of the engineering trade, which has been revolutionized by such methods since the beginning of the war. The purpose of the reorganization is to simplify skilled processes so as to bring them within the capacity of less expert workers, all the changes tending toward greater specialization and greater repetition.

A skilled man's work is sometimes analyzed into its various parts and a woman put on each separate part. Or simpler parts of a piece of highly skilled work may be set off for women to do, while a man spends his time exclusively on skilled operations. Thus in many munition factories, where formerly each machine was "set up," operated and repaired by a skilled man, now each is operated by a woman, while half-a-dozen are supervised and repaired by a single skilled man. In especially exacting work it has sometimes been possible to carry "substitution by rearrangement" no farther than to substitute for two skilled men on two machines one skilled man and two women. Another very common method of "substitution by rearrangement" consists of the introduction of automatic or semi-automatic machinery, in place of hand work or machines requiring considerable attention and initiative on the part of the operator. Thus a machine for cloth cutting is advertised, which, according to the testimonial of an employer, "does the work of four hand cutters and is operated by a *girl* with the greatest ease. Until its introduction it was impossible to employ women at the actual work of cutting, but where this machine is in use it is now done. It has helped us to carry on six government contracts and has reduced cutting costs by more than 50 per cent."¹ Through the use of such devices, women in large numbers are becoming cutters even of heavy garments.

From one point of view it would not seem essential that women should receive men's rates if "substitution by rearrangement" has

¹ *Labour Gazette*, April, 1917, p. xxiv.

taken place. From another viewpoint, however, if the lower rates decrease the total labor cost of the job, as is almost always the case, the danger remains that lower rates for women will pull down the men's wage standards. More obvious is the menace to the men's rates if women are not generally inferior as workers, and if they are employed at a lower wage scale under the other forms of substitution.

The evidence obtainable on the relative wages received by men workers and by the women who replaced them shows that just that danger exists. While most of the women substitutes have gained an improved financial position, they have not, on the whole, reached a plane of economic equality with the men whom they have replaced. In January, 1916, the *Labour Gazette*, looking back over 1915, said that "The extensive substitution of women and young persons for men has tended to lower wages per head for those employed."¹ The nearest approaches to the men's level seem to have been attained in occupations covered by trade union agreements which require the payment of the men's wage scale to the women. The government, in the munitions industry, has definitely gone on record in support of the "equal pay" principle, and has, to some extent, put it into actual effect. Changes in industrial method and non-observance of the awards have worked against the complete reaching of such a standard, though unquestionably the wages of women substitutes in munitions work are much higher than the former level of women's wages. In trades covered neither by union agreement nor legal regulation, women are generally receiving what is high pay according to their previous wage scale, but investigators believe that the men's level has not even approximately been reached.

¹ *Labour Gazette*, January, 1916, p. 5.

CHAPTER XI

Hours of Work

Since the working hours of women in English industry have long been regulated by law, the discussion of the effects of the war on working time centers in the modifications in the legislation made because of war conditions. The main facts are comparatively well known in America. The early war time extension of hours, the discovery that the previous limitations had operated in the interests of industrial efficiency as well as humanitarian considerations, and the final restoration of almost the pre-war limit of working hours, are fairly familiar. Certain modifications in the daily hour standards are still allowed, however, and night work by women continues common.

At the outbreak of war permitted hours were ten daily and fifty-five weekly in textile factories, and ten and a half daily and sixty weekly, with a limited amount of overtime, in non-textile factories and workshops. But the Secretary of State had the power to modify these restrictions "in case of any public emergency." The factory acts allowed him at such periods to exempt work on government contracts and in government factories from hour limitations "to the extent and during the period named by him."¹

The Demand for Overtime

A demand for the exercise of this power to extend women's hours and to allow them to do night and Sunday work was made by manufacturers of army supplies in the early days of the war. While the greatest rush of government orders came to firms making munitions, clothing, and camp equipment, the number of trades affected was "unexpectedly great, extending from big guns

¹ Factory and Workshop Act, 1901, 1 Edw. 7, Ch. 22, Sec. 150.

to boot nails, from blankets to tapes, from motor wagons to cigarettes."¹

The factory inspectors felt that they were facing a difficult problem. Obviously it was necessary to secure the greatest possible output, but it was equally apparent that labor would soon break down if unrestricted overtime were permitted. Moreover, "was it right that one set of operatives should be working excessive hours, while others were without work at all?" It is well to keep in mind also that at this time the Germans were fighting their way through Belgium and advancing on Paris, and that the expeditionary force must at all costs be kept supplied. In the emergency, overtime orders, good for one month each, were granted individual firms who requested them on account of war demands. These orders usually permitted women to work either in eight-hour or twelve-hour shifts during any part of the twenty-four hours, or, as an alternative to the shift system, two hours of overtime daily on each of five days were allowed, making a seventy-hour week. Permission to work Saturday overtime or Sundays was rarely granted. Additional meal periods were required if overtime was worked.

As the unemployment crisis passed, "the sole problem" came to be "what scale of hours was likely to give the largest amount of production." Steps were then taken to replace the first individual permits for exemptions by uniform orders for an entire trade. The latter were still issued, however, not for the industry as a whole, but only to individual firms applying for them. The permits were largely based on joint conferences with employers and employes, and allowed women to work at night or some eight or nine hours of overtime weekly. The latter meant a working week of about sixty-five hours in textile factories, and between sixty-five and seventy in other forms of factory work. The demands of employers had often been for a far greater amount of overtime.

The most extensive modifications of the law were made for

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 55.

munition plants where, on account of the "urgent demand" the inspectors "recognized that latitude on a very wide scale must be permitted." Night work under either the two or the three-shift system was allowed, or as an alternative five hours of overtime weekly or seven and a half in cases of special urgency. But women were not to be employed on Sundays except for night work.

From August 4, 1914, to February 19, 1915, a total of 3,141 overtime permits of all kinds were issued.¹ Only fifty-four permits allowing night work remained in force at the end of 1914, though the number was considerably increased in the first quarter of 1915.

But overtime by women workers was unfortunately not even confined to that sanctioned by special orders. There is considerable evidence that long hours were also worked illegally, sometimes entirely without permission, in other cases above the permitted modifications. In September, 1914, the belief spread about that the factory acts were wholly in abeyance until the end of the war, and the factory inspectors admit that undoubtedly many cases of "long hours without legal sanction" occurred. Yet "these have been steadily brought under better control, the more steadily because of the knowledge of intelligent manufacturers that unlimited hours can not be worked without detriment to output, or in the long run without encroaching on workers' reserves."² According to the factory inspectors, this section of the manufacturers made more resistance to excessive overtime at this period than the workers themselves. In the critical days when the Germans were advancing toward Paris, many women were ready to work all day and all night on army supplies. Except in surgical dressing factories, where the girls were very young and the work very monotonous, the operatives were said to show "a spirit of sustained, untiring effort never seen before and most admirable." One girl is quoted as saying, "My sweet-

¹ See Appendix F.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 39.

heart, he's out there, and my two brothers, so I may as well be working," and a woman remarked that she wanted to be able to write her husband in the trenches that she was "doing her share."¹ An appeal to the workers was made by Lord Kitchener early in the war to the effect that "in carrying out the great work of providing the army with its equipment employers and employes alike are doing their duty for their King and country equally with those who have joined the army for service in the field." This was often posted in factories, and helped to stimulate the women to work long hours without complaint.

Women's Working Hours in 1915

Authorities differ about women's working hours in 1915 in a way that makes it difficult to determine the exact situation. The factory inspectors showed a considerable degree of optimism. From their point of view the total numbers of hour law modifications in force remained large, but the amount of overtime and week-end work declined, and the problem of violations was not serious.

In certain important industries, particularly clothing, boots, shirts, leather equipment, and surgical dressings, the need for overtime had "for the present at all events ceased." Yet the total number of requests for exemptions was no less, though there was "a marked reduction in the amount of latitude sought and allowed; for instance, fresh demands for permission to work on Sundays are now rarely received, and are confined to cases where sudden and unexpected emergency arises or the processes are continuous. Requests for Saturday afternoon work have also become less common, and there seems to be a more general recognition of the advantages of a week-end rest. . . . Sunday labor has been found to be more and more unsatisfactory; apart from the ill effects which must follow from a long continued spell of working seven days a week, it too often results in loss

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 40.

of time on other days of the week and in consequent disorganization."¹

Only fifty orders allowing Sunday work by women and girls were outstanding in December, 1915. These orders were strictly conditioned. Sunday work was to be allowed only in cases of emergency and for part of the day, and was not to be carried on in any two consecutive weeks. Moderate hours through the week and time off on Saturdays were required.

Besides orders covering some twenty-seven different trades affected by war demands, a general order was issued modifying the statute law in all other non-textile factories in which exemptions were legal. The weekly total of sixty hours was not to be exceeded, but greater elasticity in daily hours was permitted up to a maximum of fourteen hours in any one day. The 1914 general overtime order was continued in the munitions industry. The factory inspectors noted on one hand that "many of the schemes put forward were considerably within the maximum allowed, and even where the maximum was sought it has been found in practice that the full number of hours were frequently not worked," and on the other hand that many special orders had been required, especially for the large munition firms, in some of which the hours remained longer than those permitted by the general order for the trade. But on the whole there was "observable a distinct tendency towards a reduction of hours in these works as elsewhere."²

Moreover, the tendency grew during the year "to substitute a system of shifts for the long day followed by overtime." The factory inspectors urged the introduction of the three-shift system, but owing to the scarcity of skilled male tool-setters and other mechanics and sometimes of women, two twelve-hour shifts (generally ten and a half hours of actual work) were much more prevalent. The inspectors maintained, however, the superiority of three shifts, giving one example where the change

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 6.

² See Appendix G.

had been made in which output increased by a third while the need for supervision diminished. But it should be noted that although the shift system brought a reduction of overtime to women workers, it involved an increasing amount of night work.

The factory inspectors had but slight criticisms to make of illegal overtime and violations of orders. "There is little cause for complaint as to the proper observance of the conditions of the orders," except in the Midlands. A few cases of serious irregularity were found elsewhere, but were "striking exceptions to the general rule. . . . The most general cause of complaint is that occupiers have taken upon themselves to work overtime without authority, and have continued it without applying for a renewal of their orders. There has been neglect, too, in affixing notices specifying the hours of work."¹

But it is probable that during at least part of 1915 the optimism of the factory inspectors regarding the shortening of hours and elimination of illegal overtime was not completely justified. Under powers granted by the Defense of the Realm Act an order of June 6, 1915,² extended the right of the Secretary of State to modify the labor laws in a way which investigators state "proved very difficult to handle properly."³ The modifications could be made, not only in government factories and on government contracts, but in "any factory . . . in which the Secretary of State is satisfied that by reason of the loss of men or transference to government service, or of other circumstances arising out of the present war exemption is necessary to secure the carrying on of work . . . required in the national interest."

Complaints of excessive hours and violation of overtime orders multiplied. Officials of the Ministry of Munitions admitted, during a visit to the United States in the autumn of 1917, that for four to six months after the shortage of munitions was discovered in the spring of 1915, many women worked nearly a

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 9.

² Order No. 551.

³ John and Katherine Barrett, *British Industrial Conditions during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

hundred hours a week. A case was cited in the House of Commons of a factory where girls were working regularly ten and a half hours a day seven days a week, and had worked ninety-five hours a week "many times" since the beginning of the war. Another much quoted case was that of a firm holding an exemption allowing moderate overtime which worked one girl thirty hours at a stretch and another twenty-five and a half hours. The second girl, who was under eighteen, then met with an accident, which brought the situation to the attention of the factory inspectors. A prosecution was started, but at the first trial the case was dismissed on the grounds of a national necessity. At a second trial the counsel for the defense called the prosecution "a piece of fatuous folly, only justified by supreme ignorance," and said that the Home Office, instead of prosecuting "ought to have struck a special medal" for the girls. "Now is not the time to talk about factory acts."¹ The employer was finally put on probation.

However, in the latter part of 1915, and principally as a result of the unsatisfactory conditions there took place the first of a new series of developments which were to bring back women's hours almost to pre-war standards and to improve greatly the scientific basis for the restriction of working hours.

To the Ministry of Munitions is mainly due the new committees which were largely responsible for the change. A special agent for the Federal Trade Commission states that:

Toward the end of 1915 it became certain that some action would have to be taken by the ministry to deal with the question of excessive hours, more particularly those worked by women and boys. The department's attention was drawn to the fact that the maximum number of weekly hours allowed under the provisions of the general order made under the factory acts was continually being exceeded and that without the support of the ministry the home office found it increasingly difficult to insure that no persons should work excessive hours.²

¹ G. D. H. Cole, *Labour in War Time*, 1915, p. 273.

² John Bass, *Report to the United States Federal Trade Commission*, April 17, 1917.

recommendations of the committee. It is believed that working hours in the home trade should not exceed more than four or five hours from eight o'clock in the morning to six o'clock in the evening. It is considered that the Committee's recommendations will be followed by the Home Office and it is further recommended that the Minister of Health consider the following recommendations of the committee in the same spirit. It is agreed that a general recommendation is made that all workers work a maximum of twelve hours a fortnight and that a maximum of ten hours a week should be worked.

It is proposed that the other Home Office Committee be empowered by the Minister of Home Affairs to consider the consequences of the same necessary to consider and to recommend regulations of additional fatigue hours of labour and other factors affecting the general health and physical efficiency of workers, recognition factories and workshops. By agreement the Minister has referred to this committee the question of working week and of the substitution of the three-shift for the two-shift system.

Upon going to recommendations were received the Ministry's code regarding Sunday work and the employment of women at night. A circular was sent to all manufacturers establishing policy that all workers should be granted a weekly rest and a separate Sunday lunch for their own good and in the interests of production. The circular said, in part:

The aim should be to work not more than twelve shifts per fortnight or twenty-four where double shifts are worked.

Where three eight-hour shifts are worked, not less than two should be omitted on Sunday. It is, in the opinion of the Minister, preferable to work a moderate amount of overtime during the week, allowing a break on Sunday, rather than work continuously from day to day. It is still more strongly his view that where overtime is worked in the week, Sunday labour is not desirable.

¹Great Britain Home Office, Report of the Chief Inspector of Factories and Workshops for 1914, p. 6.

Another circular of instructions in November, 1915, recommended that under the two-shift system, women should be employed "as far as is reasonably practicable" by day rather than by night.

Later Developments

Scientific studies in fatigue, and improvements in the regulation of working hours, continued to be the chief features of the women's hour situation in 1916 and 1917. Two reports made for the Home Office by Dr. A. F. Stanley Kent on *An Investigation of Industrial Fatigue by Physiological Methods*, showed, as the result of actual experiments with working days of different length, that overtime may "defeat its own object" and actually cause a diminution in "total daily output." The first report which had been published in August, 1915, was of less direct practical importance, giving merely a description of a number of tests adapted to showing fatigue in factory workers. The second report, issued in September, 1916, was a study of output and the effects of fatigue in certain plants making war equipment under working days of different length. Among its most significant conclusions from the point of view of hour restriction were the following:

A worker employed for 10 hours per day may produce a greater output than when employed for 12 hours, the extra rest being more than sufficient to compensate for the loss of time.

A worker employed for 8 hours per day may produce a greater output than another of equal capacity working 12 hours per day.

A group of workers showed an absolute increase of over 5 per cent of output as a result of diminution of 16½ per cent in the length of the working day.

Another group increased their average rate of output from 262 to 276 as a result of shortening the day from 12 hours to 10 and to 316 on a further shortening of 2 hours.

Under the conditions studied neither rate of working nor

total output attains a maximum when a 12-hour day is adopted.¹

Two other scientific reports on the subject dealt with *The Question of Fatigue from the Economic Standpoint*, and were put out by a committee of the British Association for the Advancement of Science in September, 1915, and September, 1916, respectively. The monographs emphasized the importance of an observation of fatigue in the workers and adaptation of the hours of labor thereto. The memoranda and reports of the Health of Munition Workers Committee are the best known of this group of studies, no doubt because besides being the work of scientific investigators, they were carried on to form a basis for official action, and contained definite recommendations for the shortening of hours in order to improve output. While they dealt with munitions work alone, the principles brought out are equally applicable to any form of industrial occupation.

The first memorandum published in November, 1915, covered the subject of Sunday labor, and recommended without qualifications a weekly rest day for all classes of workers.

. . . If the maximum output is to be secured and maintained for any length of time, a weekly period of rest must be allowed. Except for quite short periods, continuous work, in their view, is a profound mistake and does not pay —output is not increased. . . . Some action must be taken in regard to continuous labor and excessive hours of work if it is desired to secure and maintain, over a long period, the maximum output. . . .

Should the early stoppage of all Sunday work be considered for any reason difficult if not impossible to bring about, the committee trust that it will at least be practicable to lay down the principle that Sunday labor is a serious evil which should be steadily and systematically discouraged and restricted.

For women and for "young persons," the need of abolishing Sunday work and granting week-end and other holidays was even

¹ A. F. Stanley Kent, *Second Interim Report on an Investigation of Industrial Fatigue by Physiological Methods*, Home Office, 1916, p. 44.

more urgent than for adult males. "The committee are strongly of opinion that for women and girls a portion of Saturday and the whole of Sunday should be available for rest, and that the periodic factory holidays should not, on any account, be omitted."¹

The committee went on record in favor of a return to the pre-war legal standard of weekly hours. "Continuous work in excess of the normal legal limit of sixty hours per week ought to be discontinued as soon as practicable," though the hours permitted in any one day might vary somewhat more than the factory acts allowed.² There was, for instance, "little objection to such moderate overtime during the week as can be compensated for by an earlier stop on Saturdays." But, in general, "The need for overtime amongst women and girls is much less pressing than it is for men, they are rarely employed on highly skilled work, and where there is still a good reserve of labor there should be little difficulty in gradually introducing shifts. . . . [The committee] strongly urge that wherever practicable overtime should be abandoned in favor of shifts."

Three systems of hours were found in operation in munition plants. There was the single shift of thirteen–fourteen hours including meal times, which was known as the "overtime system," two twelve-hour and three eight-hour shifts. The committee considered that in the long run the latter yielded the best results with women workers.

The committee recommend the adoption of the three-shifts system without overtime, wherever a sufficient supply of labor is available. Where the supply is governed by difficulties of housing and transit, the committee are of opinion

¹ The latter quotation comes from *Memorandum No. 4*, "Employment of Women and Girls," which appeared in January, 1916, and discussed daily hours, night work and rest periods, as well as Sunday labor.

² A later report by the committee stated that the hours "provisionally" fixed were probably too long, except for very short periods or for very light work carried on under exceptionally good conditions, while the hours which produced the largest output varied according to the nature of the work, age and sex of the workers, and conditions inside and outside the factory; in general, "the time was ripe" for a further marked reduction in hours. *Memorandum No. 20*, October, 1917.

that every effort should be made to overcome these difficulties before a less serviceable system be continued or adopted.

They [eight-hour shifts] involve little or no strain on the workers; the periods during which machinery stand idle for meals are very much reduced, while significant statements have been put before the committee claiming beneficial effects upon output.

Observations were later made for the committee of a group of nearly a hundred women over a period of about thirteen months during which time their actual weekly working hours were reduced from sixty-six on seven days to forty-five on six days. Yet output rose nine per cent. The committee concluded:

For women engaged in moderately heavy lathe work a 50-hour week yields as good an output as a 66-hour week, and a considerably better one than a 77-hour week.¹

In regard to night work, however, the committee felt that the exigencies of war time prevented a return to a really desirable standard. "The employment of women at night is, without question, undesirable, yet now it is for a time inevitable." It demanded special care and supervision and the use of such safeguards as would reduce its risks to the minimum. "In no case should the hours worked at night exceed sixty per week." Whether continuous night shifts or alternate day and night shifts should be worked was a matter to be settled by local considerations.

Another interesting point in the Health of Munition Workers Committee memoranda was the recognition of the value of brief rest periods within working hours. "Pauses, well distributed and adapted in length to the needs of women workers, are," it was said, "of the greatest value in averting breakdown and giving an impetus to production." Particularly with night work "adequate pauses for rest and meals are indispensable." On twelve-hour shifts, two breaks of three-quarters of an hour each

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 18*, "Further Statistical Information Concerning Output in Relation to Hours of Work," 1917, p. 4.

for meals should be taken out, while on an eight-hour shift a half hour for one meal was sufficient. Though the statutes allowed five hours of continuous work in non-textile and four and a half in textile factories, many managers believe that four hours is the longest period during which a woman can maintain continuous work at full vigor. Within this period a pause of ten minutes has been found to give excellent results.

The reports, showing as they did that "the hours which conduce most to a satisfactory home life and to health conduce most to output," have already had a notable influence both in this country and in England in strengthening the scientific basis for labor legislation. For instance, on October 3, 1916, a significant clause was added to the order permitting overtime work, allowing it where necessary on account of the war, only if "such exemption can be granted without detriment to the national interest."¹

The interdepartmental Hours of Labour Committee used the recommendations briefly outlined above as the basis for its work, formulating a new general order regulating overtime, which was finally issued by the Home Office September 9, 1916, after prolonged criticism by all the supply departments. The order applied to all controlled establishments and national workshops and might be extended to any other munitions work. In other cases there was to be a return to factory act hours.

Hours not allowed by the factory act or the order in question are not to be worked after the 1st October, 1916, unless expressly sanctioned by special order from the Home Office. Applications for such special orders will not in future be entertained save in exceptional circumstances and in respect of work of a specially urgent character.²

Three schemes of working hours were provided for, a three-shift system, two shifts, and a rearrangement of statutory hours. Under the first plan no shift might be longer than ten hours and a weekly rest day was compulsory. Weekly hours under the

¹ Great Britain, Defence of the Realm Act, *Order No. 702*.

² Home Office, *General Order*, Sept. 9, 1916, p. 1.

two-shift system were not to exceed sixty, and a maximum of six shifts was to be worked in any one week. The third scheme also limited weekly hours to sixty, and required working hours to fall between 6 a.m. and 10 p.m., but as much as twelve hours might be worked in a single day. Hours for meals were fixed according to the Health of Munition Workers Committee recommendations. In cases of special emergency in naval ship repairing women might work a maximum of sixty-five hours weekly. They might only be employed at night if supervised by a woman welfare worker or "responsible forewoman." Except for the night work, the order was practically a return to pre-war standards.¹

The Ministry of Munitions supplemented these efforts by ordering the "investigating officers," of the labor regulation section of its labor department, who had charge of all labor matters except dilution and the supply of labor, to report cases of excessive overtime and unnecessary Sunday work in controlled establishments, with a view to having an order issued prohibiting it. An official circular of March 17, 1916, urged that more use be made of "week-end volunteers," so that all workers might have a Sunday rest, "both in the interest of the work-people and of production." But the numbers of "week-end munition relief workers" remained small, due to the attitude both of the firms and of the workers, who could not afford to lose their Sunday pay.²

How far did investigations and orders result in reasonable hours of work in munition plants and other factories? This is a question naturally hard to answer from documentary evidence alone. But apparently the situation has in many cases been improved. The Ministry of Munitions gained more direct control over the regulation of hours in January, 1916, through the munitions amendment act, by which it was empowered to fix women's hours on munitions work in all establishments where "leaving certificates" were required.

¹ See Appendix H.

² *Women's Industrial News*, April, 1916, pp. 17, 18.

Some complaints of unreasonably long hours still persisted. *The Woman Worker* reported during the winter of 1916 the case of a Scottish factory making cores for grenade bombs which opened at 6 a.m. and closed at 8 p.m. the first five days of the week and at 6 p.m. on Saturdays and Sundays, making a working week of eighty-two hours exclusive of meal times.¹ Investigators likewise stated that the labor shortage and the urgency of the demand have "frequently" caused the recommendations to be exceeded.²

On the other hand, both in the Clyde district and around Birmingham the British Association for the Advancement of Science stated, in April, 1916, that the working week varied from forty-four to fifty-six hours, fifty-four hours being the most common period. In August, 1916, the then Minister of Munitions, Dr. Christopher Addison, said in Parliament in response to questions that the interdepartmental committee was taking steps to bring the working week within the sixty-hour limit in all controlled establishments. And an investigation by the factory inspectors in 1916 found that out of 243 "controlled establishments" 123 were working within the regular sixty-hour limit and only fifteen were working "irregular and excessive" hours, though in nineteen the breaks for rest periods and meals in some way violated the conditions of the order.

Mr. H. W. Garrod of the Ministry of Munitions, while in the United States in November, 1917, gave the average working hours for women munition makers as fifty-two to fifty-four, with one to four hours of overtime. He said that the Ministry wanted to do away with overtime altogether, but that the women objected, because it would reduce their earnings.

Much attention was paid to the question of Sunday work by the interdepartmental hours committee. In January, 1916, it obtained a weekly rest period for all women in explosives factories under continuous operation. It soon secured the entire discon-

¹ *The Woman Worker*, Feb., 1916, p. 10.

² John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

tinuance of Sunday work by "protected persons" in national projectile and shell factories except a short shift in the projectile establishments for "rectifying" shells and cleaning the shop. In April, 1917, almost all Sunday work by all classes of workers was abolished in every controlled and national munition plant.¹ The Ministry ordered that the customary factory holidays be observed by all controlled establishments in the summer of 1917.

Night work for women, which has never been recommended for abolition during the emergency, of course persisted and even tended to increase, as more and more plants went into continuous operation. Especially in shell factories large numbers of women worked at night.

In 1916 at least eight-hour shifts had failed to "make much progress" and twelve-hour shifts were still "predominant."² The latter, it should be noted, meant not twelve but ten and a half hours of actual work over a twelve-hour period. Certain large munition establishments, including at least one government factory, even changed from the eight to the twelve-hour shift in 1916.³ Besides the shortage of labor it was said that the workers disliked the necessary changes in meal times and living arrangements under the shorter system, and that transportation schedules were not conveniently adjusted to it. It was alleged that young girls preferred the longer hours because they then escaped helping with the housework! By April, 1917, however, an investigator for the British government was said to report that women were working eight-hour shifts in all government plants, not through any general order but through the action of various local committees to whom the power of regulating hours had been entrusted.⁴

Outside the munitions industry the factory inspectors reported "numerous applications" for overtime orders in 1916, involving,

¹ Henriette R. Walter, "Munition Workers in England," *Munition Makers*, p. 138.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 8.

³ *The Woman Worker*, May, 1916, p. 12.

⁴ Henriette R. Walter, "Munition Workers in England," *Munition Makers*, p. 139.

however, a rearrangement of daily hours rather than a weekly total beyond the statutory limit.

Much that was abnormal and bound to be injurious to health if long continued has been brought within manageable limits. Excessive overtime and Sunday labor have been checked and as nearly as possible abolished. . . . In general the experience of war emergency work, far from making employers in love with extended hours, appears to be producing a contrary effect and bringing about a sense of the importance of so limiting the period of employment as not to produce any feeling of exhaustion or even of marked fatigue.

Fewer factories were working overtime without permission, though some prosecutions were necessary in the woolen industry. The idea that the factory acts were in abeyance till the end of the war was disappearing. With an increased recognition of the injury done to both quality and quantity of work by fatigue the powers available under overtime orders were in some cases not fully used by the employers. One employer remarked that overtime orders were "like a drop of brandy, a useful thing to keep in the house, but you didn't want always to be taking it."

While a woman labor leader asserted as late as July, 1917, that "the factory act was in ruins" and that dangerous privileges "had been accorded to certain classes of employers,"¹ it is probable that for the later months of war this is an unduly pessimistic point of view and that the more cheerful outlook of the factory inspectors is the better grounded. Even in 1915, when working hours were probably longest, some regulation of hours existed. The factory acts were seriously modified, but never repealed. Since that time, with the exception of night work, there has been a virtual return to pre-war standards. Along with this has come a much improved knowledge of the effects of fatigue, which will after the war make possible the revision of hour standards on a more scientific foundation than ever before.

¹ Susan Lawrence, as reported in *The Women's Trade Union Review*, July, 1917, p. 12.

CHAPTER XII

Safety, Health and Comfort

A considerable improvement in other working conditions for women frequently accompanied the change for the worse in hour standards. As women were brought into many workshops for the first time a general cleaning up often took place, and special accommodations in the way of cloakrooms, washrooms, and rest-rooms became necessary. The long hours, the increasing distances which many workers lived from the factory, and the institution of night shifts made some provision for getting meals there almost imperative. It became much more common for men and women to work together, especially on night shifts, and in many cases an effort was made to solve the problems thus raised, and those coming to the front wherever large numbers of women were taken on, by appointing woman "welfare supervisors." Where large numbers of women were brought from a distance to work in munition centers, considerable attention was paid to the betterment of living conditions outside the factory. While there is every indication that the lengthening of hours will be abandoned after the war emergency has passed, the improvements enumerated seem likely to mean a permanent rise in English standards of working conditions.

The 1915 report of the chief factory inspector noted that:

The introduction of women into works where they have not hitherto been employed has been often accompanied by a striking degree of solicitude on the part of the managers for their welfare and comfort. . . . A question arises . . . why has the manufacture of munitions of war on a terrible scale led at last to systematic introduction of hygienic safeguards that factory inspectors have advocated for many years, such as supervision of women by women in factories, provision of means for personal cleanliness, proper meal and rest rooms, and qualified nurses? Probably it is in part due to a recognition that wages alone can not

adequately reward those who serve the State in time of need, but it also points again to the new general awakening to the dependence of efficient output on the welfare of the human agent.¹

Similarly, many large business offices, when they hired women for the first time, made special arrangements for their health and comfort.

Organized Efforts

Except for the requirement by the Home Office that "canteen" (restaurant) facilities should be provided wherever women were employed at night, the efforts just described were not in the beginning the result of any organized propaganda. But soon "welfare work" came within the scope of the seemingly boundless energy of the Ministry of Munitions, which is responsible for stimulating many of the improvements, as it was for much of the new spirit in hour regulation.

As early as November, 1915, a circular of instructions by the Ministry of Munitions contained recommendations for the comfort of women munition workers.² A list of appropriate occupations was given. Lavatory and cloakrooms with female attendants should be provided for the exclusive use of females, and they should be supplied with aprons and caps, to be washed without charge. Later *Instructions to Investigating Officers* urged that it was "of the first importance that the conditions under which [women] work should be thoroughly good." Suitable appliances, such as lifting tackle for particularly heavy work, should be provided to lessen the physical strain. The Minister of Munitions was prepared to give "liberal financial help" to welfare arrangements by allowing them to be paid for out of what would otherwise be taken by the excess profits tax.³

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, pp. 14, 15.

² Great Britain Ministry of Munitions, *Circular L 6*.

³ Under this head were included (1) cloakrooms having separate pegs and arrangements for drying clothes, (2) wash rooms with hot and cold water, soap and towels, (3) sanitary conveniences, (4) rest and first aid rooms, separated, if the latter were used by men, (5) chairs or stools, (6) caps and aprons.

The Health of Munition Workers Committee laid great stress on provisions for safety, health, and comfort, as well as on the limitation of hours. Of female workers the committee said in January, 1916, "The effect upon the health and energy of women and girls which results from clean, bright and airy workrooms, well warmed in winter can hardly be exaggerated. The factory act secures a minimum of these essential things, but the highest standard attained in the best factories is not too high. . . . The provision of washing accommodations . . . has become increasingly important . . . cloakrooms should also be provided. . . . The provision of adequate and suitable sanitary accommodations is a matter of special importance."¹ At that time it was the judgment of the committee that "if the present long hours, the lack of helpful and sympathetic oversight, the inability to obtain good, wholesome food, and the great difficulties of traveling are allowed to continue, it will be impracticable to secure or maintain for an extended period the high maximum output of which women are undoubtedly capable." The committee attached high value to "canteens" or factory restaurants, remarking that "the munition worker, like the soldier, requires good rations to enable him to do good work." Three of their memoranda dealt with the subject, and gave complete directions for setting up and equipping a canteen, with model bills of fare. Other memoranda covered "welfare supervision," which will be discussed in the latter part of this section, and "washing facilities and baths."

In January, 1916, also, the munitions amendment act gave the Ministry of Munitions more definite control over the introduction of these provisions, such as it had over working hours. The Ministry was empowered to regulate working conditions for females in establishments where the leaving certificate system was in force. In matters already regulated by the factory acts the concurrence of the Secretary of State was required.

Coincident with its enlarged powers and with the recommenda-

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 4. "Employment of Women,"* p. 7.

tions of the Health of Munitions Workers Committee, the Ministry started, in January, 1916, an extensive "welfare department," as part of the labor regulation section. Its director was Mr. B. Seebohm Rowntree, a manufacturer well known for his social studies and for the development of welfare schemes in his own establishment. The aim of the department was to "raise the well being" of women and child munition workers to as high a point as possible in all factories in which the Ministry had power to regulate working conditions.¹ Numerous specialists were attached to the department, such as physicians for work on the prevention of industrial poisonings, and "welfare officers" to visit the factories. After their inspections these officials made recommendations for changes, which the department then urged on the firms. It was said that it seldom proved necessary to use the legal powers. The department worked in close cooperation with the Home Office, which was in charge of factory inspection.

Some of the principal factors in working conditions to which the department was directed to give attention were clean work-rooms, the suitability of occupation to individual workers, factory "canteens," proper hours and rest periods, wages, and the prevention of dangers to health and safety. The department's standard for hours was a working period which "conserved strength, gave a chance for rest and recreation," and was not longer than those recommended by the Health of Munition Workers Committee. Wages must be sufficient to cover "physical needs and reasonable recreation." "Amenities," washing accommodations and cloakrooms, for instance, should also be provided, "such as men and women coming from decent homes may reasonably demand." The department was to "enquire" into all these matters, but not necessarily to deal with them all directly. For instance, the interdepartmental hours committee was the final authority on cases of reduction of hours.

In industry outside munitions work the growing importance ascribed to "welfare" provisions was reflected a few months later

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

in a part of the "Police, Factories, etc. (Miscellaneous Provisions) Act" of August 3, 1916.¹ The Home Secretary was empowered by this measure to issue special orders "for securing the welfare of the workers" when the nature of the work or "special circumstances" made it advisable. Such orders might cover either a single establishment or a special class, all the workers in the establishments in question or merely some special class. The welfare provisions might be compulsory only when applied for by some specified proportion of the workers. Such improvements in working conditions above the ordinary statutory requirements might include "arrangements for preparing or heating and taking meals; the supply of drinking water; the supply of protective clothing; ambulance and first-aid arrangements; the supply and use of seats in workrooms; facilities for washing; accommodations for clothing; arrangements for supervision of workers."

In one respect, however, labor leaders believed that the bill contained a backward step. It permitted deductions from wages to pay for the additional benefits, though during its passage through Parliament the labor members secured considerable safeguards of this power. Contributions could be used only to pay for benefits "which, in the opinion of the Secretary of State, could not reasonably be required to be provided by the employer alone, and if two-thirds of the workers affected . . . assent." Aside from the dangers of abuse under this provision the measure seems to provide a method for securing decided improvements in working conditions and for arrangements better suited to the varying needs of different industries than is possible under general statutes.

In 1916 and 1917 also steps were taken to minimize the two worst risks of occupational disease which menaced the woman munition worker. She was liable to contract toxic jaundice from the "dope" (tetrachlorethane) used in varnishing the wings of airplanes and from "T. N. T." (trinitrotoluene), an explosive with which many women were filling shells. In the year 1916, 112 cases of toxic jaundice among female workers and thirty-one

¹ 6 and 7 Geo. 5, 1916, ch. 31.

deaths were reported to the Home Office. Up to the summer of 1916 the majority of the cases seem to have been caused by "dope poisoning." On August 8 of that year a representative of the War Office and Admiralty stated that several satisfactory non-poisonous "dopes" had been discovered and that contractors were no longer to be allowed to use tetrachlorethane if the substitutes could be obtained. At the beginning of 1917 Dr. T. M. Legge, the chief medical inspector of factories, and Sir Thomas Oliver, the well known expert on occupational disease, both stated that poisonous dopes were no longer in use for government work in Great Britain.

Workers on "T. N. T." sometimes contract an annoying eczema as well as the more dangerous toxic jaundice, and it is feared that the substance renders some women permanently sterile.¹ It is particularly unfortunate that the task of filling shells with "T. N. T." is so light and easy as almost always to be given to women, if it is true, as alleged, that "men and boys seem comparatively unsusceptible to the poison."¹ Even when they are not sickened by the poison, the hair and skin of workers handling "T. N. T." often turn bright yellow. For this reason workers on the substance have received the nickname of "canaries."

Instructions for the prevention of "T. N. T." poisoning were issued by the Ministry on February 19, 1917. They were designed to prevent the absorption of the poison through the skin, which was believed to be the principal means of infection. Working "costumes," to be washed at least weekly, and washing accommodations were to be provided, and each worker was to receive free daily a pint of milk. After a fortnight of work on "T. N. T." processes at least a fortnight or other work was to be given, and a weekly medical examination was compulsory, with removal of any workers found affected. A special person was to be appointed in each work place to see that the rules were carried out. In October, 1917, no figures had yet been published which would determine the effectiveness

¹ *The New Statesman*, February 3, 1917, pp. 415-416.

of these provisions. No regulations were reported at that time on the use of cordite in shell filling, which was said to have caused several cases of suffocation among women workers.

How far the various rules and recommendations actually resulted in better working conditions is an interesting question. Apparently considerable gains were made, though further advances were still practicable. In the munitions industry, for instance, national factories are said to have "naturally adopted welfare in all its phases,"¹ while the arrangement that improvements could be made out of what would otherwise be taken as excess profits tax was a strong inducement to action by "controlled" establishments. But in the early months of 1916 soon after its formation the welfare department of the Ministry of Munitions undertook, in cooperation with the factory inspectors, a survey of "controlled" and "national" munitions plants to see which ones most needed its attention. At that time, out of 1,396 plants covered, 31 per cent graded "A," 49 per cent "B," and 20 per cent "C."

It is well to grasp the point that B and C conditions meant in varying combinations partial or complete lack of mess-room accommodation or facilities for cooking food; inadequate or non-existent cloakrooms and washing appliances even for dusty and greasy occupations; lack of supply of seats; need of first aid and rest rooms; supervision even of numerous young girls by men only, and other defects in factories mostly working twelve-hour shifts, and reached often by considerable journeys from the workers' homes.²

Allowance must be made, however, for "great progress" during the year. "Undoubtedly a number of the factories classed B . . . have qualified for class A, and to a lesser extent this is true of class C."³ In a similar vein the *Women's Industrial News* said in April, 1916, that the standard of comfort advocated

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 9.

³ *Ibid.*

by the Health of Munition Workers Committee for rest rooms, cloakrooms, and canteens was "rare" but that "it was possible to hope for a gradual improvement in conditions." In June, 1917, Dr. Addison, then Minister of Munitions, reported canteen accommodations in national and controlled establishments for about 810,000 workers, there being a total of some 1,750,000 persons employed. In October the Health of Munition Workers Committee stated that canteen accommodations had been provided for 920,000 or 45 per cent of all munition makers.

To be sure, women workers have had not a few grievances about the canteens. A delegation of organized women workers called on government officials in December, 1916, to protest against the poor food and the "rough and ready manner" in which it was served.¹ One canteen was described as so third-rate that "any bloomin' good pull-up for carmen is a regular Hotel Cecil to it." But the numerous canteens run by one of the religious organizations for women were highly praised by the workers themselves.

The *Dilution Bulletins* give some interesting and significant results secured in munitions work through betterments in working conditions. In one factory it was estimated that 2,500 hours' work weekly was saved by prompt attention to slight accidents and illness. Another firm declared that free meals more than repaid in increased output. In another, output improved after good washrooms and cloakrooms were put in. Seats with backs increased production 10 per cent in one case.

In non-munitions industries there was some grumbling at alleged delay by the Home Office in taking advantage of the "Police, Factories (Miscellaneous Provisions) Act." But after all, the act was not passed until August, 1916, and before the end of the year formal conferences on future welfare requirements had been held in the pottery and tin plate industries, and changes in the latter begun in advance of an order. Without use of the act, the factory inspectors reported "great progress" in 1916 in improving conditions in a most varied group of industries: sugar

¹ *The Woman Worker*, January, 1917, p. 13.

refineries, confectionery, breweries, oil-seed crushing, rope works, paper mills, woodworking, cloth and webbing making and tobacco. Advances in these trades were believed to have been greatly assisted by the publicity given "welfare" in the munitions industry.

The first order under the act went into effect on October 1, 1917. It required a supply of pure drinking water and drinking cups in all factories employing more than twenty-five persons. A second order was issued in October, to go into effect December 1, 1917. It applied only to blast furnaces, copper and iron mills, foundries, and metal works. In all such establishments having more than 500 employes, an "ambulance room" in charge of a trained nurse must be provided, and the provision of "first aid" outfits was made compulsory wherever twenty-five or more persons were employed.

Welfare Supervision

In the improvement of working conditions of women during the war much stress has been laid on what is known in England as "welfare supervision."

The chief duties of "welfare supervisors" within the factories as outlined by Mr. Rowntree, the head of the welfare department,¹ and by an official circular of the Ministry of Munitions included the following: The supervisors should hire or keep in touch with the hiring of new workers and the choosing of foremen, and investigate dismissals, resignations, cases of sickness and lost time, and of poor output caused by ill health. They should have a general supervision over working conditions, especially over night work, and over canteens and rest rooms and should cooperate with the plant doctor and nurse. They should keep watch of the wages received, should investigate complaints by the workers and help in the maintenance of discipline. No woman's case should be brought before a "Munitions Tribunal" until the welfare supervisor had been consulted.

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

The first steps in this direction were taken by the Home Office, in its early permits allowing night work, which were made dependent on the supervision of women by women.

Under the Ministry of Munitions the idea of "welfare supervision" has been extensively developed, and has, in fact, become to a large section of the public the most prominent feature of the Ministry's campaign for better working conditions. The Health of Munition Workers Committee devoted one of its first memoranda to the subject.¹ The committee spoke of the need, as an aid in obtaining the best possible output, of some special machinery for taking up grievances and matters of discipline and personal welfare:

The committee desire to record their unanimous conviction that a suitable system of welfare supervision . . . is essential in munition works where women and girls are employed, and, they must add, urgently necessary.

The welfare department also emphasized the importance of "welfare supervision," and one of its chief functions came to be the introduction of "welfare supervisors" or "lady superintendents" into munition plants. Such officials were appointed in all national factories. The departments encouraged the establishment of the numerous training courses which have been opened, and formed a "board of qualified women" to interview applicants and to recommend to employers those found suitable.²

It was advised that the "welfare supervisor" be "a woman of good standing and education, of experience and sympathy, and having, if not an actual experience, at least a good understanding of industrial conditions." Experience as a teacher or forewoman was valuable. The worker was to be selected and paid by the employer—in government factories by the Ministry of Munitions—and "her duty was to the firm." Her success would be found to be dependent on her employer's recognition of her im-

¹ *Memorandum No. 2, "Welfare Supervision,"* 1915.

² B. Seebohm Rowntree, "The Value of Welfare Supervision to the Employer," *System* (Eng. ed.), June, 1916.

portance and her own personality. It has proved difficult to find a sufficient number of women with suitable qualifications, and some attempts at welfare supervision are said to have been "futile and misdirected" because of a poor choice of supervisor. Particularly where untrained relatives of members of the firm were employed, there was danger of undue interference with the personal affairs of the employees.

The justification of "welfare supervision," according to the official point of view, lay in an increased output. A supervisor could look out for details for which the management had no time, but which insured good conditions for its women employes. "Working on this line, lady superintendents perform a most useful service, relieve the management of a large mass of difficult detail; and increase the firms' output by promoting the health, efficiency, and happiness of the workers." The factory inspectors described a plant where discipline was unsatisfactory, the factory acts violated, and women night workers were not provided with meals or supervised by women. At the end of five months of welfare supervision it was "improved almost beyond recognition. Irregularities had disappeared; a good mess room and excellent kitchen and an ambulance room had been built; satisfactory first-aid outfit provided."

Attack on the Welfare Movement

Nevertheless the whole program of "welfare work" and especially "welfare supervision" was the subject of fierce criticism from the labor movement and radicals in general. The feminist Rebecca West even went so far as to say of it that "to women the capitalist can do with impunity all the things he no longer dares do to men."¹ Mary Macarthur, the secretary of the National Federation of Women Workers, described "welfare" as "the most unpopular word in the terminology of the factory worker."

The aim of increased output was attacked. The betterment

¹ Rebecca West, "Mothering the Munition Maker," *The New Republic*, Oct. 13, 1917, p. 300.

of industrial conditions should be directed toward "improved health, comfort, and development" for the workers as ends in themselves, instead of regarding the worker as a means of greater production.

But in most cases a distinction was made between "structural improvements" and better hours and wages on one side and "welfare supervision" on the other. The former were considered "desirable and even imperatively needed," though it was not best that they be gained through any "welfare movement." "Structural improvements" should result from factory legislation and the action of factory inspectors; wages and hours should be fixed by collective bargaining between employers and trade unionists. But there were few kind words for "welfare supervision." The ideal of the "welfare supervisor" was "docile, obedient, and machine-like" women workers. "The good welfare worker was the most dangerous" because she was most likely to be successful in reducing independence and turning the workers from trade unionism. As long as she was responsible to the employer, she might be obliged to use her position only to become "a more efficient kind of slave driver." Her duties, as officially outlined, were "an indiscriminate medley," much of which involved an interference with the private and personal affairs of the workers. Other attacks were more moderate and recognized that much depended on the personality of the supervisor:

While some supervisors in the future—like some fore-women in the past—will do much to safeguard and improve our girls' working lives, others will begin their career full of queer notions as to "discipline" and openwork stockings, and firmly persuaded, till experience teaches them better, that Trade Unionism is of the devil.¹

Others, while seeing dangers in "welfare supervision" as a permanent policy, felt that it might be of value under the emergency conditions of the war.

¹ *Women's Trade Union Review*, Jan., 1917, p. 12.

The help in need of the welfare officer can not, perhaps, be too far extended . . . in order to meet the predicament of scores of thousands of inexperienced women and young people drawn into mushroom munition factories from every kind of home and employment, working day and night (until the limit of human endurance perhaps), stranger to the town and countryside. To the efforts of the welfare officer the workers owe, indeed, not a little of the improved conditions and comfort enjoyed in many national and other model munition factories.¹

As a substitute for the "welfare supervisor" the radicals brought forward plans for "workshop committees." A "joint committee on industrial women's organizations" conferring on the "reconstruction of factory life" in the spring of 1917, passed a resolution that "all the concerns of the worker" should be cared for in each shop by a trade union committee. Schemes of this sort were indeed occasionally in successful operation. The factory inspector's report for 1916 described the "workers welfare committee" of one large factory, made up of thirteen persons, one representing the management, who were elected at a general meeting of the employes. The workers agreed to a deduction of a little more than 1 per cent of their wages, which gave the committee an income of over £50 (about \$240) weekly. With this fund help was given local hospitals and convalescent homes which were used by the employes, war relief funds, and cases of distress among the force. Daily newspapers were provided in the canteen and "concerts twice a week at dinner time. 'Whatever we want we can have,' said a member of the committee." Such a compromise, it would seem, could preserve the benefits of "welfare supervision," while satisfying the workers and giving them valuable experience in administrative work.

Improvements in Conditions outside the Factory

The activity of the Ministry of Munitions did not halt at the factory gates, but extended outside into matters of housing,

¹ *Women's Industrial News*, April, 1917, p. 19.

transit, provision of recreation, and the care of sickness, on the ground that the abnormal conditions of the new munition centers affected the efficiency of the workers. Mr. H. W. Garrod of the Ministry of Munitions believes that perhaps the most difficult problems it encountered in connection with women workers arose concerning the welfare of the women who were moved away from home to work at a distance at the rate of 5,000 a month or more.

Work of this nature for women away from home was at first in the hands of the "local advisory committees on women's war employment." The official conception of the duties of "welfare supervisors" also included attention to such items. In January, 1917, the Health of Munition Workers Committee brought out a memorandum on "Health and Welfare of Munition Workers outside the Factory." In this it stated:

The necessity in the present emergency of transferring workers from their homes to distant places where their labor is required has created an unparalleled situation, and problems of the first importance to the nation are arising simultaneously in munition areas in various parts of the kingdom, especially as regards women and girls. The committee are of opinion that the situation calls for some more complete and systematic action than can be taken locally by isolated bodies of persons, however public spirited and sympathetic they may be. . . . It is, therefore, from no lack of appreciation of the work of these committees that the Health of Munition Workers Committee must express the opinion that the time has now come to supplement and reinforce them by a larger degree of State action than has hitherto been deemed necessary.

In accordance with their recommendation the welfare department of the Ministry of Munitions appointed a number of "outside welfare officers" who aided the committees and who were held responsible for the successful accomplishment of the work.

The picture of transportation difficulties given by the committee forms an interesting sidelight on conditions in and about the new munition centers:

Health, timekeeping, temper, and output all suffer, when to the day's work is added the discomfort and fatigue of a long walk to and fro in bad weather or in darkness, or a scramble to squeeze into a crowded railway carriage, tram, or omnibus, with a long journey in a bad atmosphere. In the darkness of early morning and at night, when no lights are allowed to be shown on the railway, separate compartments for women are desirable, and no traveling without a light inside the carriage should be allowed; in some places carriages without blinds or other means of shading the windows are used for the convenience of work people of both sexes. Under these circumstances artificial light can not be used and the journey is made crowded together in total darkness.¹

In the more crowded centers living accommodations were equally overtaxed. "The sudden influx of workers in several districts has so overtaxed the housing accommodation that houses intended for one family are now occupied by several."² And "beds are never empty and rooms are never aired, for in a badly crowded district, the beds, like the occupants, are organized in day and night shifts."³ High charges and poor service added to the discomforts of the overcrowding:

About eighteen months ago I visited a Midland town where the girls, although they were earning from twenty-five to fifty shillings instead of the fifteen to eighteen shillings which was their weekly wage in peace time, were living in conditions more unhealthy and uncomfortable than they had ever endured before. It was common for a girl on the day shift to go back to a bed from which a worker on the night shift had just arisen. Girls on a twelve-hour shift would have to lodge an hour and a half from the factory, so that their working day amounted to fifteen hours. To get a roof over their heads they would have to put up with dirt, bad cooking, rowdy companions, and above all extor-

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 17, "Health and Welfare of Munition Workers Outside the Factory,"* 1917.

² *Ibid., Memorandum No. 2, "Welfare Supervision,"* p. 3.

³ *Ibid., Memorandum No. 4, "Employment of Women,"* p. 5.

tionate charges; the poor also can cheat the poor, I have known the wives of foremen earning over five pounds a week to charge a girl fifteen shillings a week for bed and breakfast.¹

The housing situation, however, was taken in hand by the Ministry of Munitions on an extensive scale. It is claimed that in the first year after the passage of the munitions act accommodations for 60,000 people were provided, and that "whole villages were built."² In some cases the government advanced money to local authorities or philanthropic organizations for permanent buildings. In other instances the Ministry itself built temporary "hostels." It also put up "vast numbers of small wooden cottages—known as huts." Existing buildings like board schools were frequently remodeled for use as hostels.

Nevertheless, representatives of the Ministry of Munitions declared in November, 1917, that on the whole the hostel system, which involved large dormitories and common sitting rooms, was a failure. The chief objections were the rules and regulations necessary when large numbers of women were brought together, and the difficulties arising if even one woman of questionable character got into a dormitory. For these reasons, and because the hostels lacked privacy, and were not homelike, they generally were not particularly popular with women workers, who were said to prefer lodgings in a family even in cases where "they had to pay 12s. a week (\$2.88) for a third of a bed." Efforts were made by welfare workers and local committees to supervise and compile lists of approved lodgings, but the problem had not been entirely solved in the summer of 1917. Parliament then passed a measure adapting the "billetting" system used for soldiers³ to the needs of munition workers, but in November nothing could be learned about the operation of this law.

¹ Rebecca West, "Mothering the Munition Maker," *The New Republic*, October 6, 1917, p. 267.

² John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

³ A number of soldiers may be assigned to a town, and householders may be required to furnish them with board and lodging at a fixed rate.

Other interesting points in the work of the Ministry of Munitions for "welfare" among women workers outside the factory included provision for recreation, for day nurseries, and for the care of sickness and maternity cases. Clubs were formed, and entertainments organized. At Woolwich Arsenal a "recreation ground" was provided. Many new day nurseries were opened to guard against neglect of the children of working mothers. The nurseries were generally organized by the "local committees" but were aided by grants from the Ministry.

The Health of Munition Workers Committee called attention to the need of better provision for sickness, and advocated the building of cottage hospitals in some localities. The committee also advised the formation of special committees, including women doctors and married women, to make arrangements "without undue prominence" for maternity cases, which in some centers was not a small problem. Welfare workers were frequently embarrassed in dealing with such women whom they were obliged to discharge at an early stage of pregnancy because the work was heavy or involved contact with explosives or poisons. The women were dependent on their wages and were often "unable or unwilling" to return home. A committee could provide a "hostel" under charitable auspices where such women could be cared for and work as much as they were able, and could arrange for their confinement and the after-care of their babies.

In summing up the effectiveness of the new "welfare" movement, it is of course much easier to cite laws and recommendations than to determine the extent of improved conditions from a documentary study, such as the present one. All that can be safely said is that seemingly a good deal has been accomplished, but that even in munition plants, where the "welfare" idea is best developed, probably much remains to be done.

CHAPTER XIII

Effects of the War on Employment of Children

Extension of Employment

The effects of the war were not limited to a gain in the number of adult women workers alone, but led also to a large increase in the number of young boys and girls at work. The demands of employers, economic necessities, and patriotic motives undoubtedly all played a part in the movement. During the unemployment crisis of the autumn of 1914 it was, for a few months, difficult to find places for young workers. But on account of the acute demand for labor as more and more men were taken into military service a strong demand for boys and girls at rising wages soon succeeded the depression. As was the case with many married women, the rising cost of living and the inadequate separation allowances received by soldiers' families frequently made it an economic necessity for boys and girls to seek work at the earliest possible opportunity. Notably on munitions work patriotic motives proved a strong incentive to attract many young people. Moreover, the natural desire of not a few children to be through with school restraints and to enter adult life was reinforced by the excitement of war time and by the taking over of numerous school buildings for military purposes.

Yet it is much more difficult to give accurate figures showing the increased employment of children under fourteen and "young persons" under eighteen, than of "females." The changes are not heralded in official quarterly reports, but can be gathered only in incomplete form from a variety of sources. Three different classes of employment must be considered—that which would have been permitted previous to the war, that involving the relaxation of child labor and compulsory education laws, and that which remains entirely illegal. In all three classes, the war has brought an increase in numbers.

Of the first class, boys and girls legally entitled to work under ordinary circumstances, the British Board of Education estimated that in 1915 the number of children leaving the elementary schools at the age of fourteen or thereabouts was increased by about 10 per cent, or 45,000. For 1916, Mrs. Sidney Webb put the increase in the number leaving in this way at 50,000 to 60,000.¹ An increase in the employment of children before and after school and in the number of child street traders was also noted.² On the other hand, Mr. Herbert Fisher, president of the Board of Education, stated in the House of Commons in April, 1917, that with the greater prosperity of the working classes since the war, the enrollment in secondary schools had increased.³

Relaxation of Child Labor and Compulsory Education Laws

An increase nothing short of appalling has taken place in the number of working children between eleven and fourteen who, prior to the war, would have been protected by child labor and compulsory school laws. In 1911, according to official figures, only 148,000 children of these ages were employed in all Great Britain. In August, 1917, Mr. Fisher said in the House of Commons that "in three years of war some 600,000 children have been withdrawn prematurely from school and become immersed in industry. They are working on munitions, in the fields, and in the mines."⁴

Probably nine-tenths of the exemptions were for agricultural work. They were the result of the activity of the farmers' associations, which had always opposed compulsory education for the children of their farm laborers and which in most cases con-

¹ Owen R. Lovejoy, "Safeguarding Childhood in Peace and War," *Child Labor Bulletin*, May, 1917, p. 74.

² *London Times*, Educational Supplement, March 15, 1917.

³ Children's Bureau, "Child Labor in Warring Countries," *Bureau Publication No. 27*, 1917, p. 12. Thanks are due to Miss Julia Lathrop, chief of the Bureau, and to Miss Anna Rochester of the Bureau, for access to an advance copy of the report.

⁴ House of Commons, *Debates*, August 10, 1917, p. 790.

trolled the local school boards.¹ Farmers of North Wilts recommended that eleven-year-old children be released from school for work for which women "were not strong enough."

Though probably extra-legal, the exemptions were sanctioned under specified conditions, in a circular of the board of education to local authorities issued in March, 1915.² Children of school age were to be exempted for "light" and "suitable" agricultural employment in cases of special emergency, when no other labor was available. There was to be no general relaxation of standards, and exemptions were to be made in individual cases and for limited periods only.

Even before the publication of this circular, between September 1, 1914, and January 31, 1915, 1,413 children under fourteen, some of them as young as eleven years, were released from school for farm work. Between February 1 and April 30, 1915, 3,811 children were exempted for this purpose. The number holding excuses on January 31, 1916, was 8,026; on May 31 was 15,753, and on October 31 was 14,915. These figures, moreover, showed only the number of children formally excused by special exemption, not the number actually at work. About half the counties made special by-laws lowering the standard of compulsory attendance required before the war. In Wiltshire, for instance, all children of eleven who had reached the fourth standard were not required to attend school, and only those below that grade who were specially excused appeared in the official lists.³ Then, too, in some places schools were closed at noon or altogether at times of special stress, and in others headmasters were directed to let children of eleven and over leave without record when needed for farm work.⁴

It is noteworthy that the policy of granting exemptions was not uniformly followed throughout the country, since some local authorities refused to relax the attendance laws. Twenty-five

¹ *Labour Year Book*, 1916, pp. 88-89.

² Great Britain Board of Education, *Circular* 898, March 12, 1915.

³ United States Bureau of Labor Statistics, *Monthly Review*, June, 1917, p. 889.

⁴ *The Woman Worker*, May, 1916, p. 3.

county councils reported that no children had been excused between February 1 and April 30, 1915. The policy of exemption was strongly opposed by the agricultural laborers' union, and by the whole labor party which brought the matter up in the House of Commons in the spring of 1915, but to little effect. It was charged that the farmers were making use of child labor in order to keep down wages, and that the supply of adult labor would be sufficient if proper wages were paid.

The Board of Agriculture advocated relieving the situation by an increased use of women instead of children. "The Board of Agriculture have expressed the opinion that if the women of the country districts and of England generally took the part they might take in agriculture, it would be unnecessary to sacrifice the children under twelve."¹

In the spring of 1916 the Board of Education itself admitted that in some areas exemptions had "been granted too freely and without sufficiently careful ascertainment that the conditions . . . prescribed by the government . . . were fulfilled."² A circular of February 29, 1916, laid down additional restrictions on excusing children from school.³ Children under twelve should "never" be excused except for very short periods when the circumstances were "entirely exceptional." Persons wishing to hire school children should be required to specify the work for which they were needed and to prove that the need could not be filled in any other way, especially by employing women. A register of all children exempted should be kept and the exemptions reviewed at least once every three months. The power of granting exemptions should be kept in the hands of the central committee and not given over to district committees or local truant officers, which policy, it had been found, "involves great divergency in practice and gives rise to considerable laxity of administration."

¹ Great Britain Board of Education, *Report of the Chief Medical Officer of the Board of Education for 1915*, p. 106.

² *Ibid.*, p. 103.

³ *Ibid.*, Circular 943, February 29, 1916.

An interesting clause of the circular "suggested that the urgency of the need for the labor of school children may, to a certain extent, be tested by the amount of wages offered, and as a general rule it may be taken that if the labor of a boy of school age is not worth at least six shillings a week to the farmer, the benefit derived from the boy's employment is not sufficient to compensate for the loss involved by the interruption of the boy's education." In an earlier report the board had noted that only one of the twenty school children reported engaged in farm work by one county was receiving as much as 6s. (\$1.44) weekly.¹

However, the board had no direct power over the local authorities except to reduce its money grants when the number of children in attendance decreased. The number of children excused, according to the statistics just quoted, reached its highest point in May, 1916, which would indicate that the circular had little influence with local officials in reducing the number of country children deprived of schooling to work on the farms.

In 1917 the board again became more favorable to a modification of school requirements. On February 2, in answer to a question in the House of Commons, the president of the board of education stated that "greater elasticity" was to be allowed in the school vacations, so that boys over twelve might engage in farm work. For this purpose the Board of Education would give money grants for 320 school sessions annually instead of 400, as usual, provided vacation classes for the younger children were organized.

Fewer children seem to have been released from school for industry or miscellaneous work than for agriculture. Between September, 1914, and February, 1915, only thirty-one children were officially reported excused from school attendance for factory work and 147 for miscellaneous occupations. None of these was less than twelve years old. On account of the small numbers excused the Board of Education did not repeat the inquiry.

Efforts were made, indeed, as early as 1915 to secure exemp-

¹ Great Britain Board of Education, *School Attendance and Employment in Agriculture, Returns 1st September, 1914, to 31st January, 1915*, p. 3.

tions for factory work similar to those in agriculture. Employers' associations urged that children of twelve and thirteen be excused from school. The cotton spinners' and employers' associations sent a joint petition to the Home Secretary asking that children be allowed to begin work in the cotton mills at thirteen instead of fourteen years. The spinners' union preferred such a lowering of child labor standards to allowing women to become "piecers." Certain government contractors also asked the local education authorities for permission to employ boys of thirteen.

But at the time the official attitude was much less encouraging in regard to exemptions for factory work than for agriculture. The Home Office refused to consent to any relaxation unless the Admiralty or War Office certified that the observance of child labor laws was delaying work necessary to the war.¹ The annual report of the factory inspectors for 1915 mentioned an important prosecution for illegal child labor. The board of education was a little more lenient, allowing the local authorities to excuse boys of thirteen under certain prescribed conditions, which included the restriction that the work must be within the boys' physical capacity.² But during at least the earlier months of war "generally in urban areas, the information furnished appears to show that there has been no great variation from the usual practice in the matter. At all times children have been granted exemption in very special circumstances, and the only effect of the war has been that such special circumstances have arisen a little more frequently than they did in normal times."³ The statement of Mr. Fisher in August, 1917, that school children were working in mines and munition factories would suggest, however, that these comparatively rigid standards were not maintained in the later months of the war.

¹ *Labour Year Book*, 1916, p. 89.

² Great Britain Board of Education, *Annual Report for 1915 of the Chief Medical Officer of the Board of Education*, p. 106.

³ *Ibid.*, *Summary of Returns supplied by Local Education Authorities for the period of September 1, 1914, to January 31, 1915*, p. 4.

In addition, it is probable that there has been more than the usual amount of illegal child labor. A note in *The Woman Worker* of January, 1917,¹ said that the "attention of the Secretary of State has been directed to the prevalence of illegal employment, in factories . . . of children under 12 . . . and children who have not obtained exemption from school attendance. . . . It is not countenanced by any of the departments concerned, nor can it be justified by any pretext of war emergency." It was stated that official action against these conditions had been secured. In several cases penalties had already been imposed. "The inspectors of factories are instructed to take rigorous action in respect of any similar offences in future, and without further warning."

Changes in Occupations of Boys and Girls

Certain effects of the war on boys' work were noted very early. By the end of 1914 it was observed that in factories strong boys, who had been apprentices or helpers, were being pushed ahead to the work of skilled men, while women and girls were taking their places. Such "indirect" substitution continued frequently to be the first change made when women were introduced into new lines of work.² The Ministry of Munitions made some effort to keep boys away from shell and fuse making and other forms of purely repetitive work, and to encourage them to take up lines which would make them skilled artisans.³ But on the whole the number of boys entering skilled trades and starting apprenticeships declined, for unskilled work at high wages was offered by munitions plants and other forms of war equipment, and many parents, under the unsettled conditions of war, were unwilling to have their sons bind themselves for a term of years.

Girls, like adult women, entered many new lines of work for the first time during the war, and there are but few facts to

¹ P. 4.

² See p. 108.

³ Great Britain Ministry of Munitions, *Dilution of Labour Bulletin*, February, 1916, p. 2.

distinguish between the two groups of workers. The girls were used in boys' places for running errands, on wagons and other forms of delivery work—which had been much complained of as a "blind alley" for boys—in banks, and in retail shops. There appeared to be a greatly increased demand for them in some cities in clerical work. In the new openings on munitions work and other forms of army equipment their work has not been clearly marked off from that done by adult women. Complaints were made in March, 1917, that it was difficult to induce young girls to enter anything but the munitions industry.¹ The glamor and excitement of direct assistance to the war undoubtedly made its strongest appeal to girls of this impressionable age.

A feature almost unknown previous to the war was the movement of boys and girls under seventeen years of age from their homes to work at a distance. The *Labour Gazette* stated of the movement:

It has, to a limited extent, been found desirable to draft boys and girls from areas where their services are not much in demand to districts where there is a scanty supply of labor for essential industries or where opportunities for training in skilled employments are available. Where such migration has been carried out through the exchanges special arrangements have been made to secure the welfare of the boys and girls in their new sphere.²

Supervision of the boys and girls thus removed from home care and training, naturally a most serious responsibility, was carried out mainly by the advisory committees on juvenile employment, which had been formed in connection with many exchanges before the war for the vocational guidance of young workers. In the case of young girls the work also came under the duties of the local committees on "women's war employment." As "welfare supervision" was developed by the Ministry of Munitions, the supervisors, and later the "outside welfare officers," were likewise instructed to give attention to the matter.

¹ *London Times*, Educational Supplement, March 15, 1917.

² February, 1917, p. 49.

Wages

According to information from labor sources¹ the rise in wages during the war was perhaps more marked among boys and girls under eighteen than among any other class of workers. Boys and girls in munitions factories in certain parts of the country were often able to earn from £1 (\$4.80) to £2 (\$9.60) a week—the latter as much as many skilled men received previous to the war.

The wages fixed by the Ministry of Munitions for girls under eighteen indicated the high level reached in boys' and girls' wages. For girls under sixteen they were roughly equivalent to the minimums fixed by the trade boards for adult women, and were somewhat higher for girls between sixteen and eighteen. Following the increases of August, 1917, the standard weekly time rate on "men's work" was 19s. 6d. (\$4.68) for girls under sixteen, 21s. 6d. (\$5.16) for girls of sixteen, and 23s. 6d. (\$6.64) for those of seventeen. On piece work thirty per cent for girls under sixteen, twenty per cent at sixteen, and ten per cent at seventeen was deducted from the rates of adult women. On work "not recognized as men's work," rates varied from 4½d. hourly (9 cents) for girls of seventeen to about 2½d. (5 cents) for those under fifteen.

Hours

Along with the relaxation of hour limitations on women's work, the similar restrictions on "protected persons" under eighteen were modified. The result of the relaxation of standards was described by the Health of Munition Workers Committee:

The weekly hours have frequently been extended to 67, and in some instances even longer hours have been worked. The daily hours of employment have been extended to 14, and occasionally even to 15 hours; night work has been

¹ *The Labour Woman*, August, 1916, p. 44.

common; Sunday work has also been allowed, though latterly it has been largely discontinued.¹

Working hours for boys under eighteen were given more specifically in an "inquiry into the health of male munition workers," made for the committee between February and August, 1916. The investigation followed the same lines as its companion study on the health of female workers, including an examination of over 1,500 boys under eighteen and their working conditions. It was found that "large numbers of boys," many of them just over fourteen, were "working a net average of sixty-eight and one-half hours per week." In some cases boys under fourteen had a forty-eight-hour week, "but in others boys of eighteen were found to be working an average of over eighty hours per week and it was ascertained that they had worked ninety and even a hundred hours per week."² It is not surprising that the investigator concluded that "hours tend to be too long for the proper preservation of health and efficiency."

In most cases the Home Office had allowed Sunday work only under rather strict conditions. "The Home Office, as a rule, only authorizes Sunday work on condition that each boy or girl employed on Sunday shall be given a day in the same week, or as part of a system of 8-hour shifts in which provision is made for weekly or fortnightly periods of rest. Apart from this, permission for boys over 16 to be employed periodically on Sunday was on July 1 last [1916] only allowed in seven cases, and in three cases for boys under 16. In only one instance are boys employed every Sunday, but this is limited to boys over 16, and the total weekly hours are only about 56. In only one case are girls employed periodically on Sunday, and there the concession is confined to girls over 16."³ The employment of girls under 16 at night had been permitted only "in one or two cases

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 13, "Juvenile Employment,"* 1916, p. 4.

² *Ibid., Interim Report,* 1917, p. 103.

³ *Ibid., Memorandum No. 13, "Juvenile Employment,"* p. 5.

. . . through exceptional circumstances." In March, 1916, it was stated that the cases were "under review with the object of arranging for the discontinuance of such employment at the earliest possible moment."

The recommendations of the committee called for a considerable improvement in these standards. "The hours prescribed by the factory act [sixty] are to be regarded as the maximum ordinarily justifiable, and even exceed materially what many experienced employers regard as the longest period for which boys and girls can usefully be employed from the point of view of either health or output." Nevertheless, "In view of the extent to which boys are employed to assist adult male workers and of limitation of supply, the committee, though with great hesitation, recommend that boys should be allowed to be employed on overtime up to the maximum suggested for men, but every effort should be made not to work boys under 16 more than sixty hours per week. Where overtime is allowed substantial relief should be insisted upon at the week-ends, and should be so arranged as to permit of some outdoor recreation on Saturday afternoon." But for girls "similar difficulties did not often arise," and the committee advised weekly hours of sixty or less and brought forward the claims of the eight-hour, three-shift system. Under the exceptional circumstances existing, the committee believed that overtime might be continued on not more than three days a week for both boys and girls, provided the specified weekly total of hours was not exceeded.

The absolute discontinuance of Sunday work was strongly advised. "The arguments in favor of a weekly period of rest . . . apply with special force in the case of boys and girls; they are less fitted to resist the strain of unrelieved toil, and are more quickly affected by monotony of work. . . . It is greatly to be hoped that all Sunday work will shortly be completely stopped."

In regard to night work, an earlier report of the committee,¹

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 5, "Hours of Work,"* pp. 7-8.

published in January, 1916, held that girls under eighteen should not be employed on a night shift "unless the need is urgent and the supply of women workers is insufficient. In such cases the employment should be restricted to girls over 16 years of age carefully selected for the work." But for boys, "it does not seem practical to suggest any change of system, but the committee hope that care will be taken to watch the effect of night work on individual boys and to limit it as far as possible to those over 16." In the subsequent memorandum on "Juvenile Employment," the committee "remained of the opinion that girls under eighteen and boys under sixteen should only be employed at night if other labor can not be obtained. Wherever possible it should be stopped."

The interdepartmental committee on hours of labor, organized late in 1915, which based its action on the recommendations of the Health of Munition Workers Committee, was instrumental in securing improved regulations for protected persons in munition factories as well as for women. The general order of September 9, 1916, made special arrangements for boys and girls over and under sixteen, respectively. Sunday work was abolished for each of these classes of workers. The maximum working week for girls was to be sixty hours, as before the war. But girls between sixteen and eighteen, like adult women, might work overtime on three days a week, provided the weekly maximum was not exceeded. Boys over sixteen were permitted to work as much as sixty-five hours a week, on three days a week as long as twelve hours and a quarter, and twelve hours on other week days. Under this scheme work on Saturday must stop not later than 2 p.m. In "cases where the work was of a specially urgent character," the twelve-hour day and sixty-five-hour week, but not the overtime, might be worked by boys of fourteen.¹ The

¹ Following is the section of the general order regulating hours for boys under eighteen:

Scheme D. (Overtime for Boys.)

This scheme applies to male young persons of 16 years of age and over provided that the superintending inspector of factories shall have power in cases where the work is of a specially urgent character to extend the application of the scheme to male young persons between 14 and 16 years of age.

committee had already forbidden the employment of girls under sixteen at night. The prohibition was extended by the general order to boys under fourteen and girls under eighteen, and boys under sixteen were allowed to do night work only in "urgent cases." Long as these hours seem according to American standards, they undoubtedly represented a considerable reduction from the hours worked by many munition plants during the early months of the war.

Safety, Health, and Comfort

The action of the Ministry of Munitions looking to the betterment of working conditions for women and girl munition workers, and the "welfare" movement which followed in other industrial occupations were described in the section on women workers.

The Ministry of Munitions urged the extension of "welfare supervision," on which it laid much stress, to boys as well as to women and girls. Such action was among the recommendations of the Health of Munition Workers Committee:

In the past the need for the welfare supervision of boys has not been so widely recognized as in the case of women and girls; present conditions have, however, served to call attention to its urgency and it is receiving the attention of an increasing number of employers. Boys fresh from the discipline of a well-ordered school need help and friendly supervision in the unfamiliar turmoil of their new sur-

Such young persons may be employed overtime on week days other than Saturday subject to the following conditions:

(1) The total hours worked per week (exclusive of intervals for meals) shall not exceed 65.

(2) The daily period of employment (including overtime and intervals for meals)

- (a) Shall not commence earlier than 6 a.m. or end later than 10 p.m.
- (b) Shall not exceed 14 hours.

Provided that where overtime is worked on not more than 3 days in the week the period of employment may in the case of boys of 16 years of age and over be 15 hours.

(3) Intervals for meals amounting to not less than $1\frac{1}{2}$ hours shall be allowed during the period of employment with an additional half hour if the period of employment is more than $13\frac{1}{2}$ hours or an additional three-fourths of an hour if the period of employment is 15 hours.

(4) On Saturday the period of employment shall end not later than 2 p.m.

roundings. They are not men and can not be treated as such. On the other hand, high wages and the absence of the father have frequently tended to relax home control. Long hours of work prevent attendance at clubs; healthy and organized recreation is seldom available. As might be anticipated under these circumstances, complaint is often made of boys leaving their work after a few days or playing truant; this may be the result of slackness and discontent, or the cause may be found in fatigue, sickness, or perhaps home troubles. If smooth working is to be secured, the real causes of such discontent and trouble must be ascertained and appreciated. Experience, however, shows that the problems involved are outside and distinct from those of ordinary factory discipline, and they are likely to remain unsolved unless someone is specially deputed for the purpose.¹

The Ministry's instructions to the "investigating officers," who visited munition plants for the labor regulation department, also drew attention to the need for "welfare supervision" of boys. "Since it is recognized on all hands that there is a danger of deterioration in the working boy between the ages of 14 and 18, it is of urgent national importance that the boy should be brought under careful supervision during these critical years of his life." The duties of such a supervisor as outlined in this and other official circulars, were similar to those of the "welfare workers" for women and girls, with perhaps more emphasis on training and advancement. A "welfare supervisor of boys" or "boy visitor" should attend to their hiring, discipline, and dismissal, and should watch their progress and recommend for promotion, arrange opportunities for recreation, technical education, and saving, and take charge of the health arrangements. A number of such officials were appointed, notably in national factories, but owing to the fact that most of the suitable candidates were in military service, welfare supervision for boys was much less widely developed than that for girls and women.

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 13, "Juvenile Employment,"* p. 6.

Effects of War Work on Boys and Girls

War work seems to have had some most unfortunate effects on both the health and the character of a considerable number of boys and girls. The high wages for unskilled work, absence of fathers in the army and of mothers in munitions work, excessive hours of labor and greater pressure of work, interruption of club and other recreational and educational provisions, the darkened streets and the general excitement of war time were among the principal factors blamed for the change. "Had we set out with the deliberate intention of manufacturing juvenile delinquents, could we have done so in any more certain way?" said Mr. Cecil Leeson, secretary of the Howard Association. Complaints of the waste of abnormally high wages by boys and girls became so serious that even certain labor organizations, which are generally opposed to such plans, advocated attention to schemes of compulsory saving or deferred payment.¹ But no plans of the sort seem actually to have been put into effect.

A vivid summary of the situation was made in March, 1917, in the *Final Report* of the Departmental Committee on Juvenile Education with Special Reference to Employment after the War, which gave a depressing picture of the effect of the war on working boys and girls.

Upon this educational and industrial chaos has come the war to aggravate conditions that could hardly be made graver, and to emphasize a problem that needed no emphasis. Many children have been withdrawn at an even earlier age than usual from day schools, and the attendances at those evening schools which have not been closed show a lamentable shrinkage. We are not prepared to say that much of the work which is now being done by juveniles in munition factories and elsewhere is in itself inferior to the work which most of them would have been doing in normal times, but there can be no doubt that many of the tendencies adversely affecting the development of character and efficiency have incidentally been accentuated.

Parental control, so far as it formerly existed, has been

¹ *The Labour Woman*, July, 1916, p. 34.

relaxed, largely through the absence of fathers of families from their homes. Wages have been exceptionally high, and although this has led to an improved standard of living, it has also, in ill-regulated households, induced habits of foolish and mischievous extravagance. Even the ordinary discipline of the workshop has in varying degrees given way; while the withdrawal of influences making for the social improvement of boys and girls has in many districts been followed by noticeable deterioration in behavior and morality. Gambling has increased. Excessive hours of strenuous labor have overtaxed the powers of young people; while many have taken advantage of the extraordinary demand for juvenile labor to change even more rapidly than usual from one blind alley employment to another.

Among boy and girl munition workers evidences of a breakdown in health were perhaps not general, but in a good many cases children working at night or long hours were found to show signs of exhaustion. In the 1915 report of the chief inspector of factories the principal lady inspector stated:

Miss Constance Smith has been much impressed by the marked difference in outward effect produced by night employment on adult and adolescent workers. "Very young girls show almost immediately, in my experience, symptoms of lassitude, exhaustion and impaired vitality under the influence of employment at night." A very strong similar impression was made on me by the appearance of large numbers of young boys who had been working at munitions for a long time on alternate day and night shifts.

The special investigator of the "health of male munition workers" noted that 51 per cent of the 900 boys in one large factory complained of sleepiness and weariness on the night shift. "It is contrary to the laws of nature for young children—for such many of these are—to be able to turn night into day without feeling an effect. . . . On the night shifts, boys do not tolerate well long hours. It has to be borne in mind that the average age of the boys examined would certainly not exceed 15 years, and it makes one consider very seriously the future of the rising generation."

The same inquiry brought out the unfavorable effects of long daily hours of work on young boys. While among all the 1,500 boys examined "no very gross degree of ill-health was prevalent," 10.6 per cent of those working more than 60 hours weekly, and only 6.7 per cent of those working less than 60 hours, were not in "good" physical condition. "This difference is a serious one." In the heavy trades "the effect upon the boys was commencing to show itself. Many though little more than fourteen were working twelve-hour shifts and doing heavy work. The boys in these shops manipulate heavy pieces of steel at a temperature of 900° F. They struck me as being considerably overworked; they looked dull and spiritless, and conversation with them gave the impression that they were languid. In fact, all the boys in this group were working far too hard."

The investigator contrasted with the poor condition of many boy munition workers the "healthy and intelligent appearance" of the boys in one factory where comparatively short hours, no night work, and free Saturday afternoons and Sundays gave them time for outdoor play. "On the other hand, many of the boys I examined at other factories are showing definite signs of the wear and tear to which they are subjected. Pale, anemic, dull, and expressionless, their conditions would excite great commiseration. Conditions outside the factory contribute their share and if the war is to continue for a long time and these boys remain subject to conditions such as described, the effect upon their general health will be difficult to remedy."

As with women, long periods spent in transit, insufficient sleep, and overcrowded homes, in addition to excessive hours of factory work, often affected the health of working boys and girls. "While engaged for twelve hours per day in the factory," it was said of boy munition makers, "they spend in a large number of cases from two and one-half to four hours traveling to and from their homes. . . . These hours, added to the working hours, leave very little time for meals at home, recreation, or sleep."¹ Many

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Interim Report*, p. 103.

CHAPTER XIV

Effects of War Work on Women

At this time, when the World War shows few signs of drawing to a close, it is of course impossible to write with assurance of the effects of war work on the woman workers themselves. It will not be until two or three years after the struggle is over, when the strain and excitement are past, that many women will feel the full physical effects of their war time efforts. And the new independence and interest in impersonal issues which seems to have arisen among many factory workers may not survive the stress of the necessary post-war industrial readjustments. All that can be done is to suggest a few striking points already noticeable in connection with the effects of war work on the health, home life, and personality of working women.

Health of Women War Workers

Definite investigations of the health of women workers were mainly confined to the munitions industry and were made by the Health of Munition Workers Committee. The general conclusion of the committee that by the latter months of 1915 the health of the munition makers, both men and women, had been injured through overwork, has been much quoted in the United States:

Taking the country as a whole, the committee are bound to record their impression that the munition workers in general have been allowed to reach a state of reduced efficiency and lowered health which might have been avoided without reduction of output by attention to the details of daily and weekly rests.

The committee's statements about female workers alone were of similar tenor:

The committee are satisfied that there is a significant amount of physical disability among women in factories which calls both for prevention and treatment . . . the lifting and carrying of heavy weights and all sudden, violent, or physically unsuitable movements in the operation of machines should, as far as practicable, be avoided. . . . Prolonged standing should be restricted to work from which it is inseparable.

Conditions of work are accepted without question and without complaint which, immediately detrimental to output, would, if continued, be ultimately disastrous to health. It is for the nation to safeguard the devotion of its workers by its foresight and watchfulness lest irreparable harm be done body and mind both in this generation and the next.

The committee desire to state that, in their opinion, if the present long hours, the lack of helpful and sympathetic oversight, the inability to obtain good, wholesome food, and the great difficulties of traveling are allowed to continue it will be impracticable to secure or maintain for an extended period the high maximum output of which women are undoubtedly capable.¹

The conclusions of the factory inspectors in 1915 as to the health of women munition makers and the results of later investigation under the auspices of the committee reiterate similar, though perhaps slightly more favorable conclusions. "Reports of inspectors from all parts of the country" did not show that, as yet, the strain of long hours had caused "any serious breakdown among the workers," though there were "indications of fatigue of a less serious kind." "Individual workers confess to feeling tired and to becoming 'stale'; there are complaints of bad time-keeping, and there is a general tendency towards a reduction of hours."²

Between January and July, 1916, a study of the health of 1,326 women chosen at random from eleven munition factories was made for the Health of Munition Workers Committee. The

¹ Great Britain Ministry of Munitions, *Health of Munition Workers Committee, Memorandum No. 4, "Employment of Women,"* pp. 3, 10.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915,* pp. 9-10.

inquiry included an investigation of home and working conditions and a physical examination. Of the women examined, 57.5 per cent were classed as "healthy," 34 per cent as "showing slight fatigue," and only 8.5 per cent as "showing marked fatigue." These findings were regarded as more satisfactory than had been anticipated. "Most of the inspectors had expected to discover far more fatigue directly attributable to the conditions of work, and were agreeably surprised at the general physical condition of the workers." Moreover, it was believed that subsequent to the investigation the dangers to health were reduced by many improvements in working conditions. On the other hand it was noted that "those who felt fatigue most may have left the factories, and so failed to come under review." Among a comparatively small group of workers, 134 in number, increased evidences of ill health were found among those who had been at work more than six months. Moreover, many women who are able to keep up as long as the excitement of war work lasts, may feel the strain when the war is over and they relax. It will not be until several years after the end of the war that the health results of munitions work can be fully measured.

Other factors likely to be injurious to health included the frequent twelve-hour shifts and the premium bonus system of payment. There were numerous complaints of the strain of twelve-hour shifts, which usually entailed ten and a half hours of actual work. Particularly in the case of married women with children the strain of these hours appeared to be excessive. It has been noted that the system is increasing rather than decreasing. The factory inspectors stated in 1915 that especially at night the twelve-hour shift "for any length of time for women . . . is undoubtedly trying, and permissible only for war emergencies, with careful make-weights in the way of good food and welfare arrangements."¹ The last hours of the twelve-hour night shift were often found to yield but little additional output.

Such a judgment is not surprising when the nature of the work

¹Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 14.

frequently done by women munition makers is considered. To be sure, such work as filling shells with explosive mixtures was easy and semi-automatic; but other tasks, for example, examining and gauging, although light, took much attention and exactitude; and some work, such as turning shells, was comparatively heavy. In lifting shells in and out of the lathe women were obliged to stretch over the machine, which involved a considerable strain on the arms with the heavier shells. For shells over 40–50 pounds, special lifting apparatus was supposed to be provided, or a male laborer used to lift the shell, but women, in their haste to proceed, sometimes failed to wait for help. A number of compensation cases have arisen in which women were seriously injured by heavy lifting. Obviously, ten and a half hours of the heavier work might be a serious strain. Moreover, long train journeys were frequently necessary, adding two or three hours to the time spent away from home. Out of seventy-five women whose working hours began at 6 a.m. and ended at 8 p.m., none had time for more than about seven and a half hours' sleep, and many of them less than seven hours. Only nineteen of these women were over twenty years of age.

The premium bonus systems of payment, which have become more and more common, provide increased rates for increased output. In some cases such systems were said to have proved "a strong temptation to injurious over-exertion." One example was that of a woman who had "won a 'shift' bonus by turning out 132 shells (nose-profiling) in one shift where the normal output was 100 shells, and had had, as a result, to remain in bed on the following day. When it was pointed out to her later that she had acted foolishly, her reply was that she knew, but she 'wasn't going to be beat.' "¹

As counteracting influences to these strains, several factors were brought forward. Improved pay, and the more nourishing food, better clothing, and living conditions which it often enabled women workers to secure were most frequently mentioned. "The

¹ British Association for the Advancement of Science, *Labour, Finance, and the War*, p. 117.

dietary was in most cases more ample and suitable than the workers had been used to previously," said the investigators for the Health of Munition Workers Committee. It has been observed that many well paid women gave up the supposedly feminine habit of living on bread and tea for substantial meals of meat and vegetables. The British Association for the Advancement of Science noted a higher "physical and mental tone" due to the better standards permitted by higher wages. The health of low-paid workers frequently improved after entering munitions work.¹ The improvements in factory sanitation encouraged by the Ministry of Munitions were likewise helpful in decreasing the risks to health, and the patriotic spirit of the women also received mention as a partial preventive of fatigue. "The excitement of doing 'war work' and making munitions added a zest and interest to the work which tended to lessen the fatigue experienced," said the physicians who investigated the health of women munition workers for the Health of Munition Workers Committee.

Effects of Night Work

It is generally believed that the wisdom of forbidding night work by women has been clearly demonstrated by experience during the war. Women, especially married women, did not stand night work as well as men. The British Association for the Advancement of Science said, in April, 1916:

It would be well if the experience of those industries in which night work has become a temporary necessity could be made widely known. The adverse effects on output, not to mention the lowering of the health of the workers, should be a sufficient safeguard against any attempt permanently to remove the factory act restriction.²

The earlier investigations of the Health of Munition Workers Committee also confirmed the dangers of night work for women. In one factory visited at night fatigue was found to prevent many

¹ *Labour, Finance, and the War*, p. 129.

² *Ibid.*, p. 84.

of the women from getting a meal at the rest period. In another "several women were lying, during the meal hour, beside their piles of heaped-up work, while others, later, were asleep beside their machines."¹

The night work in munition factories had once more emphasized, said the committee, the "half-forgotten facts" about its injurious effects on women. "In a working class home the difficulty in obtaining rest by day is great; quiet can not be easily secured; and the mother of a family can not sleep while the claims of children and home are pressing upon her; the younger unmarried women are tempted to take the daylight hours for amusement or shopping; moreover, sleep is often interrupted in order that the mid-day meal may be shared."¹

It must be acknowledged, however, that in its later interim report the committee was somewhat less unfavorable to night work by women. While it was found that continuous night work reduced output, a group of women on alternate weeks of day and night work lost less time than when on continuous day work. The committee did not, to be sure, consider night work desirable, but inevitable during the war emergency as long as production must be increased to its highest point. Because they were especially likely to do housework during the day and to get very little sleep, the physicians who examined women munition workers believed night work to be "too heavy a burden for the average married women."

Aside from munitions work, the principal evidence as to health conditions concerned women who were replacing men on outdoor work. Observers generally expressed surprise at the improvement in health and appetite which took place, even when the work was heavy. Fresh air, better wages, and better food were believed to account for the gains in health. Some of the women who became railway porters found the work too heavy, however, and

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 4, "Employment of Women,"* p. 4.

the nervous strain often proved excessive for women tram-drivers.

Summing up the necessarily slight evidence, it may be said that three years of war work has hardly caused any serious general breakdown in health among women workers, though some ill effects were noted in a considerable number of cases. The undesirability of night work for women was confirmed. Higher wages seemed to be one of the most important factors in offsetting the evils of overwork. But in spite of better wages and working conditions and some reduction of the abnormal hours frequent in the early months of the war, many women, especially in munitions, seem to have worked under a severe strain. This will make the provision of a first grade factory environment increasingly important, if the women are not to suffer when the excitement of war service is over. Increased maternity welfare provisions will also be acutely needed when the young girls who have gone through the strenuous days of war service become mothers. Yet if "proper care and foresight are exercised," in the judgment of the physicians who examined women munition workers, "there seems no reason why women and girls, suitably selected and supervised and working under appropriate conditions, should not take their place in munition factories and carry out many operations hitherto considered fit only for men without permanent detriment to their future health."¹

Effects of War Work on Home Life

Unfortunately it seems probable that conditions of work in the munition centers have been such as to have a disintegrating effect on home life. Long working hours, frequent long train trips in addition to those hours, overcrowded houses, the increased employment of married women and of women at a distance from their homes have all contributed to this result.

Two quotations, one from official, the other from labor

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Interim Report*, p. 119.

sources, illustrate the way in which home life was too often disrupted by munitions work. According to the first:

While the urgent necessity for women's work remains, and while the mother's time and the time of the elder girls is largely given to the making of munitions, the home and the younger children must inevitably suffer. Where home conditions are bad, as they frequently are, where a long working day is aggravated by long hours of traveling and where, in addition, housing accommodation is inadequate, family life is defaced beyond recognition. . . . Often far from offering a rest from the fatigue of the day, the home conditions offer but fresh aggravation. A day begun at 4 or even 3:30 a.m., for work at 6 a.m., followed by 14 hours in the factory and another 2 or 2½ hours on the journey back, may end at 10 or 10:30 p.m., in a home or lodging where the prevailing degree of overcrowding precludes all possibility of comfortable rest. In such conditions of confusion, pressure and overcrowding, home can have no existence.¹

Since January, 1916, attention to the "welfare" of women workers outside the factory by the Ministry of Munitions no doubt often improved the conditions. But early in 1917 a committee of women labor leaders still felt that home life had in many cases been disorganized.

The result of war conditions has naturally been very marked in its effects on the health and well-being of the women and children at home. The demand for the work of women . . . has been such that a large number of married women have been pressed into industrial employment. This means, on the one hand, a certain neglect of the duty of keeping their homes, and on the other an extra and heavy burden on their strength in order to fulfil, however inadequately, some part of these necessary duties. The children, as well as the women, have suffered from these results.²

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 4. "Employment of Women,"* p. 5.

² Committee of Industrial Women's Organizations, *The Position of Women After the War,* p. 9.

To be sure, in the first months of the war the increase in family income had often meant better food, but even this advantage was disappearing with the rapid rise in prices.

Development of Personality in Women War Workers

Nevertheless, surprising as it may seem in view of the harm which war work appears often to have done to home life and sometimes to health, the development of the woman industrial worker under it may prove to be one of the most important changes wrought by the conflict.

An interesting article in *The New Statesman*¹ suggested that "three years of war have been enough to effect an amazing transformation," in the average factory woman, especially in the munition centers. They had gained an independence and an interest in impersonal affairs seldom found before the war. "They appear more alert, more critical of the conditions under which they work, more ready to make a stand against injustice than their pre-war selves or their prototypes. They seem to have wider interests and more corporate feeling. They have a keener appetite for experience and pleasure and a tendency quite new to their class to protest against wrongs even before they become intolerable." It is "not that an entire class has been reborn, but that the average factory woman is less helpless, and that the class is evolving its own leaders." The writer ascribed the change in the main to a wider choice of employments, occasional gains in real wages, praise of the women's value in war service, and their discontent with the operation of the munitions acts and other government measures:

Again, the brains of the girl worker have been sharpened by the discontent of her family. She is living in an atmosphere of discontent with almost all established things. There is discontent because of the high prices of milk and meat, because of the scarcity of potatoes, sugar, butter or margarine, because of the indigestible quality of the war bread,

¹ June 23, 1917, p. 271.

because of the increased railway fares and the big profits of many employers and contractors. There is discontent with the discipline of the army, with the humiliating position of brothers and husbands and sweethearts who are privates, with the inadequacy of army pensions and the delay in giving them. There is rage against the munitions act, against munitions tribunals and military tribunals. Every member of the family has his or her grievance. The father perhaps is a skilled engineer and is afraid that he is being robbed of the value of his skill by the process of dilution. The eldest son is in the army, and perhaps sends home tales of petty tyrannies, and minor, avoidable irritations. Another son, with incurable physical defects, is forced into the Army and falls dangerously ill. One daughter goes to another town to work in a munitions factory, can not get a leaving certificate, and barely earns enough to pay for board and lodging. Thus the women of the family are being brought more than ever before into contact with questions of principles and rights. Questions of government administration are forced upon their notice. And in the factory the very men who used to tell them that trade unionism was no concern of theirs are urging them to organize for the protection of men workers as well as of themselves. . . . The woman worker who was formerly forbidden by her menfolk to interest herself in public questions is now assured by politicians, journalists, and the men who work at her side that her labor is one of the most vital elements in the national scheme of defence, and that after the war it is going to be one of the most formidable problems of reconstruction. Flattery and discontent have always been the soundest school-masters. The factory woman was a case of arrested development, and the war has given her a brief opportunity which she is using to come into line with men of her own class.

Though naturally more guarded in expression, the factory inspectors' report for 1916 reflected a very similar opinion. The change was noted principally among women substitutes for men. There, especially in heavy work, "the acquisition of men's rates of pay has had a peculiarly enheartening and stimulating effect." On the northeast coast in particular, where pre-war opportunities for women had been limited and their wages very

low, their replacement of men in shipbuilding, munitions, chemicals, and iron works had "revolutionized" the position of the woman worker.

"The national gain appears to me to be overwhelming," it was stated further, "as against all risks of loss or disturbance, in the new self-confidence engendered in women by the very considerable proportion of cases where they are efficiently doing men's work at men's rates of pay. If this new valuation can be reflected on to their own special and often highly skilled and nationally indispensable occupations a renaissance may there be effected of far greater significance even than the immediate widening of women's opportunities, great as that is. Undervaluation there in the past has been the bane of efficiency, and has meant a heavy loss to the nation."¹

Already the nation's appreciation of the value of women's war work is reflected in the passage of a measure of woman suffrage through the House of Commons. The old traditions of what women workers can do are broken down, a fact which may have a marked effect on the vocational and technical education of girls in future. But the working women seem likely to have need of all their new born confidence and their new weapon of the vote—which, incidentally, is not to be given to the younger women—to hold their gains without injuring the position of working men in the industrial readjustment which will follow the war. It is estimated that the cessation of war demands will throw half the working population of the United Kingdom out of work, besides which, several millions of soldiers must be restored to civil employment. It is likely that working women will suffer in these changes even more severely than working men. Probably a larger proportion of the women are in war industries, and many who are taking men's places both in war work and the more staple lines hold their positions under agreements which limit their employment strictly to the duration of the war. Even though many women will return to their homes or marry at the end of the

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, pp. 6, 7.

war, and though the losses in military service will make places for not a few of the increased number of women of the present generation who must remain single and support themselves permanently, yet a serious problem remains.

The government is, to be sure, taking steps in the matter, and has appointed a "Ministry of Reconstruction" to work out plans for meeting the situation. Nearly all the munition workers will be covered by unemployment insurance for some time after the war. Methods of demobilizing the army and of releasing munition workers so as to cause as little industrial disturbance as possible are being worked out, and the employment exchange system is to be expanded to help in the process. Schemes for public work, for cottage building, and for land settlement on a large scale are being developed, which will assist women workers indirectly by reducing the competition for jobs in lines they can undertake. The official view is that the problem will be in great part solved by the revival of the luxury trades and domestic service and the return of the women who came from these occupations.

But such readjustments take time and at best many women are likely to look for work in vain during the period of dislocation. On this account, if the policy of exclusion from "men's work" and from men's unions is kept up, even though the men regain their places for a time, the unemployed women will form dangerous competitors, whose needs may drive them to undercut the men's wage rates.

A solution of the difficulty has been put forward by those interested in an after-war "reconstruction" which aims not simply to tide over industry from a war to a peace basis, but also to utilize the period of transition to put the labor problem on a permanently better basis. These persons advocate the opening to women of all suitable occupations, access to the appropriate labor organizations and the payment of the women on a scale which would not tempt employers to hire them merely because they were cheaper than men. Owing to differences in strength, permanency, and organization of processes for men and for

women, such a wage scale might not in every case mean equal rates for the two sexes. The Ministry of Reconstruction brought out a plan, in the summer of 1917, for "joint standing industrial councils" representing employers and employes to consider working conditions, wages, and industrial methods for each occupation and workshop. The government has endorsed the idea, and is pressing it on the organized trades. Through such industrial councils and through an extension of minimum wage boards in the sweated, unorganized trades, it is believed that the problem of keeping the new opportunities open for women without undermining the men's standards might be solved.

Conditions which have created the evils of over-strain, excessive hours, and damage to home life will end with the war. In higher wages, better working conditions, more varied and interesting occupations, and most important of all a broader and more confident outlook on life, there is promise of permanent gains. Thus, if the transition period after the war is safely passed, it appears that on the whole the war will have placed English working women on a new and higher plane.

APPENDICES

11

Appendix A

The following table, from a "Report to the Board of Trade on the State of Employment in the United Kingdom," of February, 1915, compares the number of males and females on full time, on overtime, on short time, and unemployed, between September, 1914, and February, 1915.

STATE OF EMPLOYMENT IN SEPTEMBER, OCTOBER AND DECEMBER, 1914, AND FEBRUARY, 1915

(Numbers Employed in July = 100 per cent.)

	September, 1914		October, 1914		December, 1914		February, 1915	
	M	F	M	F	M	F	M	F
Full time	60.2	53.5	66.8	61.9	65.8	66.6	68.4	75.0
	3,913,000	1,337,500	4,342,000	1,547,500	4,277,000	1,665,000	4,446,000	1,875,000
Overtime	3.6	2.1	5.2	5.9	12.8	10.8	13.8	10.9
	234,000	52,500	338,000	147,500	832,000	270,000	897,000	272,500
Short time	26.0	36.0	17.3	26.0	10.5	19.4	6.0	12.6
	1,690,000	900,000	1,124,500	650,000	682,500	485,000	390,000	315,000
Contraction in Nos. employed	10.2	8.4	10.7	6.2	10.9	3.2	11.8	1.5
	663,000	210,000	695,000	155,000	708,500	80,000	767,000	37,500
Enlisted	8.8	.....	10.6	.....	13.3	.....	15.4	.....
	572,000	.....	689,000	.....	864,500	.....	1,010,000	.....
Net displacement (-) or replacement (+)	-1.4	-8.4	-0.1	-6.2	+2.4	-3.2	+3.6	-1.5
	-91,000	-210,000	-6,500	-155,000	+156,000	-80,000	+243,000	-37,500

Appendix B

The following table indicates some of the processes formerly reserved for men on which the factory inspectors found women employed by the end of 1915:

INDUSTRY	PROCESSES
Linoleum.....	Attending cork grinding and embossing machines, machine printing, attending stove, trimming and packing.
Woodworking—	
Brush making.....	Fibre dressers, brush makers and on boring machinery.
Furniture.....	Light upholstery, cramping, dowelling, glueing, fret-work, carving by hand or machine, staining and polishing.
Saw mills.....	On planing, moulding, sand-papering, boring, mortising, dovetailing, tenoning, turning and nailing machines. Taking off from circular saws; box making, printing and painting.
Cooperage.....	Barrel making machines.
Paper mills.....	In rag grinding and attending to beating and breaking machines, and to coating machines, calenders and in certain preparations and finishing and warehouse processes.
Printing.....	Machine feeding (on platen machines and on guillotines) and as linotype operators.
Wire rope.....	On stranding and spinning machines.
Chemical works.....	Attending at crystallising tanks and for yard work.
Soap.....	As soap millers and in general work.
Paint.....	At roller mills, filling tins and kegs, labeling and packing.
Oil and cake mills.....	Trucking, feeding and drawing off from chutes, attending to presses.
Flour mills.....	Trucking.
Bread and biscuits.....	Attending to dough-breaks, biscuit machines, and at the ovens assisting bakers.
Tobacco.....	Leaf cutting, cigarette making, soldering, trucking and warehouse work.
Rubber.....	At washing machines, grinding mills, dough rolls, solutioning, motor tube making.
Malting.....	Spreading and general work.
Breweries.....	Cask washing, tun-room work, beer bottling and bottle washing.
Distilleries.....	In the mill and yeast houses.
Cement.....	Attending weighing machines, trucking.
Foundries.....	Core making, moulding.
Tanning and currying.....	At the pits, in finishing and drying, and in oiling, setting up, buffing and staining.
Woolen mills.....	Beaming and overlooking, attending drying machines, carding, pattern weaving.

INDUSTRY

PROCESSES

Jute mills.....	On softening machines, dressing yarn, calendering.
Cotton mills.....	In blowing room on spinning mules, beaming, twisting and drawing, and in warehouse.
Hosiery.....	Folding and warehouse work.
Lace.....	Threading.
Print, bleach and dye works....	Beetling, assisting printers at machines, warehouse processes.

Appendix C

The following tables from the second report of the British Association for the Advancement of Science bring out in detail, first, the gradual disappearance of unemployment and short time and the increase of women's numbers in industry from September, 1914, to April, 1916; second, the changes in numbers of women in the various occupations, both industrial and non-industrial in December, 1915, and April, 1916, compared with July, 1914, and, third, similar details as to the number of women who were undertaking "men's work."

STATE OF EMPLOYMENT OF WOMEN AT VARIOUS DATES SINCE THE OUT-BREAK OF WAR, COMPARED WITH STATE OF EMPLOYMENT IN JULY, 1914

("Industrial" employment only. Numbers employed July, 1914 = 100 per cent.)

	Sept., 1914	Oct., 1914	Dec., 1914	Feb., 1915	Oct., 1915	Dec., 1915	Feb., 1916	April, 1916
Contraction (—) or expansion (+) in numbers employed	—8.4	—6.2	—3.2	—1.5	+7.4	+9.2	+10.9	+13.2
Employed on overtime.....	2.1	5.9	10.8	10.9	13.9	14.5	12.8	.....
Employed on short time....	36.0	26.0	19.4	12.6	5.6	6.1	4.6	.....

EXTENSION OF THE EMPLOYMENT OF WOMEN IN DECEMBER, 1915, AND APRIL, 1916

Occupations Group	Estimated Industrial Population. July, 1914, Females	Increase (+) or Decrease (—) of Females in	
		Dec., 1915	April, 1916
Building	7,000	+ 3,600	+ 6,400
Mines and Quarries.....	9,000	+ 800	+ 2,300
Metal Trades.....	144,000	+ 71,700	+126,900
Chemical Trades	40,000	+ 19,400	+ 33,600
Textile Trades	851,000	+ 29,700	+ 27,800
Clothing Trades	654,000	+ 6,700	+ 11,700
Food Trades	170,000	+ 31,700	+ 30,900
Paper and Printing Trades.....	169,000	.....	— 900
Wood Trades	39,000	+ 7,400	+ 13,200
Other Trades	96,000	+ 25,400	+ 35,700
All "Industrial" Occupations.....	2,180,000	+196,500	+287,500
Commercial	474,500	.....	+181,000
Professional	68,500	.....	+ 13,000
Banking and Finance.....	9,500	.....	+ 23,000
Public Entertainments	172,000	.....	+ 14,000
Agriculture .....	.....	.....	.....
Transport	9,500	.....	+ 16,000
Civil Service	63,000	.....	+ 29,000
Arsenals, Dockyards, etc.	2,000	.....	+ 13,000
Local Government (incl. Teachers)....	184,000	.....	+ 21,000
Domestic Service .....	.....	.....	.....
Totals for "Non-industrial" Occupations.....	983,000	.....	+310,000
Totals for all Occupations.....	3,163,000	.....	+597,500

EXTENT OF SUBSTITUTION OF FEMALE FOR MALE WORKERS IN DECEMBER, 1915, AND APRIL, 1916.

Occupations Group	Estimated number of Females on work in substitution of Males' work	
	December, 1915	April, 1916
Building	6,100	8,800
Mines and Quarries.....	2,700	4,400
Metal Trades	70,300	117,400
Chemical Trades	9,600	16,200
Textile Trades	57,600	73,400
Clothing Trades	30,400	42,300
Food Trades	29,500	35,000
Paper and Printing Trades.....	22,500	23,600
Wood Trades	11,400	17,400
Other Trades	27,000	37,400
All "Industrial" Occupations.....	267,100	375,900
Commercial .....	.....	189,000
Professional .....	.....	16,000
Banking and Finance.....	.....	25,000
Public Entertainment .....	.....	32,000
Agriculture .....	.....	.....
Transport .....	.....	18,000
Civil Service .....	.....	31,000
Arsenals, Dockyards, etc.....	.....	13,000
Local Government (incl. Teachers).....	.....	37,000
Domestic Service .....	.....	.....
Total for "Non-industrial" Occupations.....	.....	361,000
Total for all Occupations.....	.....	736,900

Appendix D

The following table, compiled from the quarterly reports in the *Labour Gazette*, gives the increase in the employment of women between April, 1916, and July, 1917, for the most important occupational groups. It can not be compared directly with the similar tables, previously given, prepared by the British Association for the Advancement of Science, because of slight differences in the estimates of the numbers employed in July, 1914.

EXTENSION OF THE EMPLOYMENT OF WOMEN IN THE UNITED KINGDOM, APRIL, 1916-JULY, 1917
(Classified by employers' position, not by nature of work.)

	Estimated No. Empl. July, 1914	Estimated increase since July, 1914					Percent of increase since July, 1914
		April, 1916	July, 1916	Oct., 1916	Jan., 1917	April, 1917	
Industrial Occupations*	2,184,000	275,000	361,000	393,000	423,000	453,000	518,000
Government Establishments†	2,000	25,000	79,000	117,000	147,000	198,000	202,000
Commercial	496,000	166,000	240,000	268,000	294,000	307,000	324,000
Professional (mainly clerks)	67,500	13,000	14,000	15,000	18,000	21,000	24,000
Banking, Finance (mainly clerks)	9,500	23,000	32,000	37,000	43,000	50,000	54,000
Hotels, Theaters, etc.	176,000	12,000	20,000	16,000	10,000	13,000	22,000
Aeri (perm. labor, Gt. Brit.)	80,000	14,000	20,000	500	14,000	... ¹	23,000
Transport (not municipal)	17,000	23,000	35,000	41,000	51,000	62,000	72,000
Civil Service	65,000	39,000	58,000	67,000	76,000	89,000	98,000
Local Government	198,000	21,000	30,000	34,000	44,000	47,000	49,000
Total.....	3,295,000	583,000	889,000	988,500	1,072,000	1,240,000	1,382,000
							41.9

* Not owned by Government.

† Includes arsenals, docks, government shell filling factories, etc.

‡ Includes teachers and transportation workers for municipalities.

Appendix E

The following table, compiled from the *Labour Gazette*, gives a quarterly estimate of the number of women replacing men for the period between April, 1916, and July, 1917.

NUMBER OF FEMALES SUBSTITUTED FOR MALE WORKERS IN THE UNITED KINGDOM IN CERTAIN OCCUPATIONS, BY QUARTERS, APRIL, 1916-JULY, 1917

	April, 1916	July, 1916	Oct., 1916	Jan., 1917	April, 1917	July, 1917	Percentage of total number employed in July, 1914
Industrial Occupations*	213,000	264,000	314,000	376,000	438,000	464,000	21.2
Government Establishments†	13,000	79,000	117,000	139,000	187,000	191,000	9,120.0
Commercial	152,000	226,000	264,000	278,000	308,000	328,000	66.0
Professional (mainly clerks)	12,000	15,000	15,000	17,000	20,000	21,000	31.2
Banking, Finance (mainly clerks)	21,000	31,000	37,000	42,000	48,000	53,000	555.6
Hotels, Theatres, etc.	27,000	31,000	30,000	31,000	35,000	38,000	21.4
Agri. (perm. labor, G. Brit.)	37,000	35,000	20,000	23,000	32,000	43,000	53.4
Transport (not municipal)	24,000	35,000	41,000	52,000	64,000	74,000	437.8
Civil Service	30,000	41,000	64,000	73,000	83,000	99,000	152.3
Local Government	18,000	26,000	31,000	40,000	41,000	43,000	21.7
Total.....	547,000	783,000	933,000	1,071,000	1,256,000	1,354,000	41.1

* Not owned by government.

† Includes arsenals, docks, Government shell filling factories, etc.

‡ Includes teachers and transportation workers for municipalities.

Appendix F

NUMBER OF ORDERS MODIFYING THE LABOR LAWS, ISSUED FROM AUGUST 4, 1914, TO FEBRUARY 19, 1915

(*Report of the Chief Inspector of Factories and Workshops for 1914*, p. 56.)

Textile:	Clothing:	
Wool	Uniforms	514
Hosiery	Fur coats	9
Cotton	Boots	245
Flax	Caps	28
Hemp and jute.....	Shirts	73
Silk	Bedding	33
Dyeing and finishing.....	Surgical dressings	21
Leather and leather equipment..	Tobacco	10
Canvas equipment	Food	37
Munitions	Tin boxes	37
Shipbuilding	Camp equipment	52
Electrical supply	Wire and wire netting	34
Metal accessories	Wagons, etc.	34
Machinery	Rubber	16
Wood	Miscellaneous	73
	Total.....	3,141

Appendix G

The following list of modifications of the hour laws in 1915 was compiled from the *Report of the Chief Inspector of Factories and Workshops for 1915*.

<i>Industry</i>	<i>Persons Affected</i>	<i>Latitude</i>
Munitions.	Women. Boys over 14. Girls over 16.	As in 1914.
Woolen and worsted (from May).	Women and young persons.	6 hours weekly overtime, in 2-hour shifts on 3 days or 1½ hours on 4 days. No overtime on Saturday.
Weaving (July-Nov.).	Women and young persons over 16.	8 hours weekly overtime in 2-hour shifts on 4 days.
Hosiery.	Protected persons.	1½ hours overtime on 4 days, or 1 hour on 5 days, but not on Saturday or Sunday.
Cotton.	Protected persons.	6 hours overtime weekly.
Margarine.	Not stated.	Not stated.
Window shades.	Not stated.	Not stated.
Flax.	Not stated.	Not stated.
Rope walks.	Not stated.	6 hours overtime weekly.
Bleach and dye works (surgical dressings; raising and finishing flannelette).	Not stated.	6 hours overtime weekly.
Tanning and currying.	Women.	4 hours overtime weekly.
Canvas equipment.	Boys over 14.	5 hours overtime weekly.
Shipbuilding.	Not stated. Boys over 14.	(a) Overtime, 5 hours a week for boys under 16; 7½ hours for those over 16. (b) Eight-hour shifts. (c) Day and night shifts. (a) Night shift (not exceeding 9 hours). (b) Any period of 9 hours between 4 a.m. and 8 p.m. (a) Night shift (not exceeding 9 hours). (b) Any period of 9 hours between 4 a.m. and 8 p.m.
Bread baking.	(a) Boys 17. (b) Boys 15 and over.	When necessary, on account of hot weather, between 6 a.m. and 10 p.m. for two spells of 4 hours each, one in the morning and one in the afternoon. Overtime 1½ hours per day.
Pastry baking (Scotland).	(a) Women and boys of 17. (b) Boys 15 and over.	Extension of overtime allowed by S. 49. Extension of S. 55.
Chocolate.*	Women.	
Leather equipment.*	Women and young persons over 16.	
Aerated waters.*	Women.	
Glass.	Boys over 13 (educationally qualified).	

* The order expired and was not renewed.

<i>Industry</i>	<i>Persons Affected</i>	<i>Latitude</i>
Oil and cake mills.	Women and boys over 16.	8-hour shifts, or day and night shifts.
Flour mills.	Women and boys over 16.	8-hour shifts, or day and night shifts.
Toys and games.*	Women.	Overtime as allowed by S. 49 and night shifts during the Christmas season.
Dairies.	Women and young persons.	5 hours on Sundays, with weekly limit of 60 hours. No other overtime during the week.
Paper mills.	Women.	8-hour shifts, or day and night shift.
Pottery.	Not stated.	Suspension of certain regulations.
Sandbags.*	Women and young persons.	Overtime, 3 hours per week.
Cement (Essex and Kent).	Women.	Night shift.
Waterproof capes (War Office contracts).*	Women and young persons over 16.	(1) Overtime, 4½ hours per week. (2) Permission for Christians to work on Saturday and Jews on Sunday.
Manchester warehouses.	Women and boys over 16.	Overtime, 2 hours on not more than 4 days a week and on not more than 12 days in any 4 weeks.
Lace and patent net factories (processes of threading, brass bobbin winding, jacking off and stripping).	Women, girls over 16; boys over 14.	(1) Different periods of employment for different workers. (2) Where (1) is impracticable overtime 1½ hours per day, but with a weekly limit of 60 hours exclusive of meal times.
Non-textile works engaged on work for the Crown, or on work required in the national interest.†	Women, girls over 16; boys over 14.	Rearrangement of the statutory hours but period of employment not to exceed 14 hours on any one day, or 60 hours (exclusive of meal times) in any week.

* The order expired and was not renewed.

† A new order, which was allowed in all non-textile works not otherwise provided for. It allowed greater elasticity than was provided by the Factory Acts, and permitted, for example, such moderate overtime during the week as could be compensated by an earlier stop on Saturdays.

